Food Packer

Canning Glasspacking Freezing

May, 1954

Man-of-the-month: Leslie F. Rutledge

"Rut," Stokely's quality control manager, actively participated in the great transition that moved the chemistry of foods from the crude alchemy of 40 years ago to the highly refined science of quality control we use today. Page 52.

• • •

The Stokely–Van Camp Story: Part 1

Nation's top pork & bean seller is packed efficiently at Stokely's Indianapolis plant. Page 24.

• • •

New California test laboratory

Dr. Hinreiner describes facilities and work underway in West Coast's newest research center. Page 30.

• • •

Pickle pest "passe" in Mo.

Methoxychlor "changes tide of battle" causing reemphasis on pickles in Missouri. Page 34.

A Vance Publication

The National Magazine of Production and Management

MANY Styles AND Sizes

...THERE'S AN ANCHOR CAP FOR EVERY SEALING PURPOSE

ANCHOR HOCKING makes eleven styles of screw, lug, friction and vacuum closures for food products. Each is designed for specific sealing purposes—all provide dependable, economical, attractive and efficient seals.

For application of vacuum and friction caps, thirteen different types of Anchor Sealing Machines are available. They apply caps at speeds ranging from 20 to as high as 625 per minute.

The uniformly high quality of Anchor Caps is the result of practical research and engineering, careful selection, testing and control of raw materials, high manufacturing standards and thorough quality control through laboratory tests and regular inspections.

If you package or contemplate packaging in glass let us recommend and send samples of the closures best suited to your particular needs. The services of our Packaging Engineering and Research Laboratories are also available to help you solve glass packaging problems.

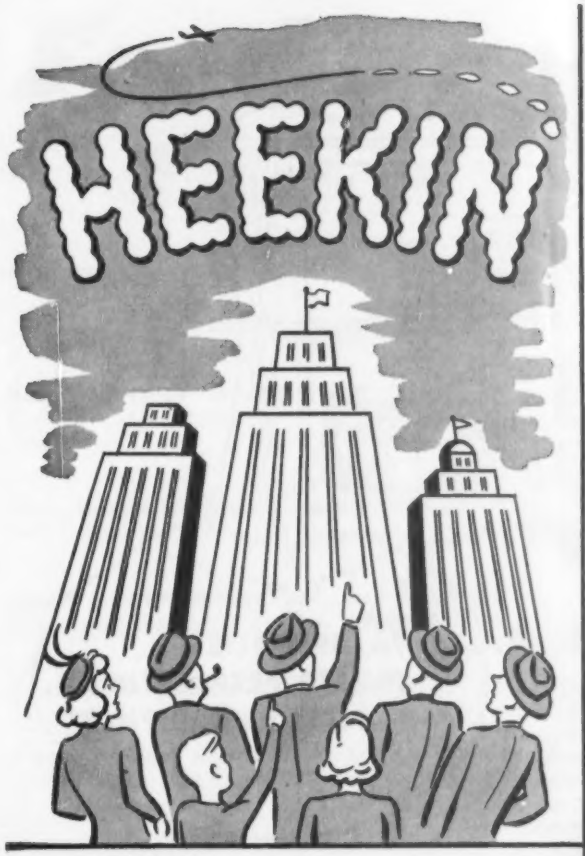
Anchorvac® D Caps are available in 21 sizes—38 to 147 mm.—lacquered, coated or privately decorated. Adaptable to all types of food products requiring a hermetic or vacuum seal. Provides fullest protection against air, moisture or bacterial action.

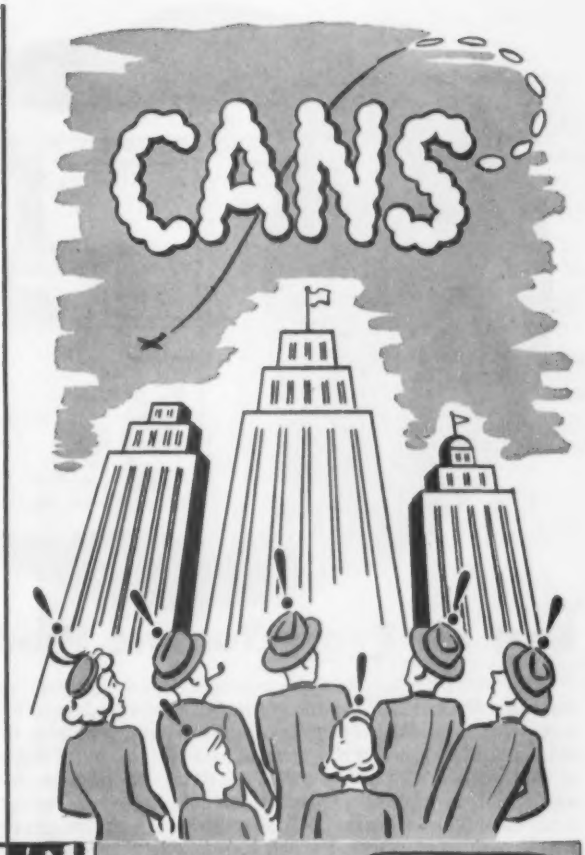
ANCHOR HOCKING

GLASS CORPORATION
LANCASTER, OHIO

★

The Most Famous Name in Glass





HEEKIN *Product Planned* Cans are backed by a *personal service* that reaches from Research to Reliability—from Product to Profit—from Sales to Satisfaction. Big or Little—you should know more about Heekin's half-century of can making know-how, plus, of course, Heekin *Product Planned* Cans. We'll be delighted to tell you.

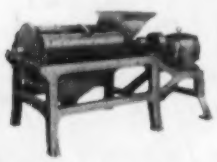
Heekin PRODUCT PLANNED **cans** ©

THE HEEKIN CAN CO., Cincinnati 2, Ohio

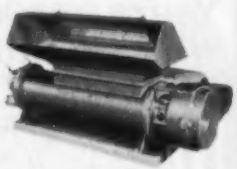
Best for Every Tomato Product...

fmc SPECIALIZED TOMATO PREPARATION & PROCESSING EQUIPMENT

If you pack any tomato products, you are probably operating some of the FMC tomato equipment described here. For there is an FMC *Specialized* item for practically every stage in the preparation and processing of tomatoes and all tomato products. Each is engineered and built to meet the most exacting requirements, and to deliver highest quality products at lowest operating, maintenance and replacement costs. For the best in equipment for every tomato product, specify FMC—your key to Food Equipment.

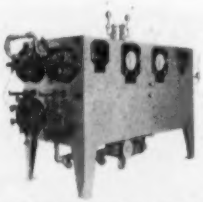


FMC Pulpers and Finishers—Heavy duty frame, rigid construction. High capacities: Pulpers 5 to 20 tons per hr. Finishers 20 to 100 GPM.



FMC Tomato Chopper—Delivers small uniformly chopped product at 25 tons per hr. Table-level feed height eliminates feed elevators.

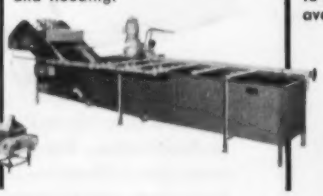
FMC Hand Pack Filler—Sturdy stainless top. Constant or variable speed drive. Sets the pace for your tomato line.



FMC Juice Processor—Continuous preheating, pasteurizing, holding and cooling in one machine. Capacities: 20-70 GPM. 1, 2 and 3-Unit Processors also available.

FMC Tomato Lines—Thorough washing, sorting and scalding on a continuous conveyor. Available in high or low pressure water systems.

FMC Flood Washer—Provides a gentle yet thorough washing action through low pressure spraying and flooding.



FMC Juice Extractors—Large screen area, extra long screw and extraction area for capacities up to 75 GPM. Lower capacity models available.

OTHER FMC TOMATO EQUIPMENT

- Rotary Washers
- Peeling and Inspection Tables
- Scalders
- Fillers (Juices, pastes, solids)
- Heating coils and stainless steel tanks
- FMC "Sterilmatic"® Continuous Pressure Cooker and Cooler
- FMC Atmospheric Cookers and Coolers.

FOOD MACHINERY AND CHEMICAL CORPORATION

Canning Machinery Division

General Sales Offices:

WESTERN: SAN JOSE, CALIFORNIA **EASTERN:** HOOPESTON, ILLINOIS

Food Packer

May, 1954

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Events to Come

May 11-12. Third Annual Sales Clinic, Pennsylvania Canners Association, Galen Hall Hotel, Reading, Pa.

May 16-19. U. S. Wholesale Grocers Assn., convention & exposition, Kiel Auditorium, St. Louis, Mo.

May 17-19. Mid-year meeting of Grocery Manufacturers of America, Inc., Boca Raton Hotel, Boca Raton, Fla.

May 20-21. National Canners Assn., annual directors meeting, Statler Hotel, Washington, D. C.

June 3. Tidewater Canners Assn. of Virginia, annual meeting, Atlanta Hotel, Colonial Beach, Va.

June 9-11. Processed Apples Institute, Inc., annual spring meeting, Skytop Lodge, Skytop, Pa.

June 10-11. National Red Cherry Institute, annual meeting, Hotel Gettysburg, Gettysburg, Pa.

June 13-14. Michigan Canners & Freezers Assn., spring meeting, Park Place Hotel, Traverse City, Mich.

June 13-17. National Assn. of Retail Grocers, annual convention, National Guard Armory, Washington, D. C.

JUNE 15-16. Maine Canners' Assn., annual meeting, Lakewood, Me.

July 15-16. National Pickle Packers Assn., mid-year meeting, Drake Hotel Chicago.

Aug. 17-19. Fifth Western Packaging and Materials Handling Exposition, Civic Auditorium, San Francisco.

Sept. 23-26. Packaging Machinery Manufacturers Institute, 22nd annual meeting, Grove Park Inn, Asheville, N. C.

Oct. 4-7. Produce Prepackaging Assn., Inc., third annual conference & exposition, Shoreham Hotel, Washington, D. C.

Oct. 21-23. Florida Canners' Assn., 23rd annual meeting, Hollywood Beach Hotel, Hollywood, Fla.

Nov. 1-2. Iowa-Nebraska Canners Assn., Inc., 53rd annual meeting, Ft. Des Moines Hotel, Des Moines, Iowa.

Nov. 3-5. Assn. of Food Industry Sanitarians, 8th annual business meeting and conference, Statler Hotel, Los Angeles.

Nov. 4. Illinois Canners Assn., anntual meeting, Bismarck Hotel, Chicago.

SERVING INDUSTRY . . . SERVING AMERICA
You are always close to Continental Can with its
78 plants in the United States, Canada and Cuba,
17 field research laboratories and 66 sales offices.

EAT AND BE HEALTHY

Doctors will tell you that the normal person can get all the proteins, minerals, vitamins and other nutrients he needs just by eating three nourishing meals a day.

The foods required for an adequate diet are available in convenient packaged form in any food store. Prepared under scientific control—often cooked in the sealed container in which they are sold—these foods are taste-appealing, safe, nourishing and economically priced.

All that is necessary is to make a reasonable selection from the store's shelves and freezer compartments. By "reasonable selection" is meant properly proportionate amounts from *all* the basic seven food groups, including fruits, vegetables, meats or fish, milk products, cereal foods and butter or margarine.

As a general rule, diets that stress any one food or that revolve around some unusual food, even when supplemented by pills and tonics, are advisable only when prescribed by the physician to meet some special health condition. Unless a person has a diet problem, the wisest thing for him to do is to go ahead and eat a properly balanced diet by selecting some food each day from each group of the "Basic Seven."

Good as packaged foods now are, processors are constantly seeking ways to make them even more nutritious. And, as part of our Tailor-Made Package Service, Continental scientists and engineers are aiding hundreds of food processors in this search. We are proud that while helping our customers to use our containers of metal, paper, foil and other materials, we are also helping to improve the diet of the nation.

(This advertisement originally appeared in full-color in TIME, BUSINESS WEEK and FORTUNE.)

CONTINENTAL CAN COMPANY

CONTINENTAL CAN BUILDING — 100 E. 42nd ST., NEW YORK 17, N. Y.

CONTINENTAL CAN COMPANY OF CANADA LIMITED, MONTREAL

there's a
reason for reaching!
frozen foods
packed with

PFIZER ASCORBIC ACID or ASCORBIC-CITRIC MIXTURES

● When housewives reach for a specific brand of fruit or fish time-after-time, there must be a reason. Behind that preference is usually a better product. One way to keep them reaching for *your* brand is to use either Pfizer Ascorbic Acid or Ascorbic-Citric Mixtures to improve the taste and appearance of your packs.

In fruits... Ascorbic Acid has been successfully used for many years to retard browning and flavor loss in peaches. Numerous packers are achieving the same outstanding results in treating cherries, apricots and apples.

For fish... Ascorbic Acid prevents "rusting" of the fatty portion... preserves natural colors ... cuts atmospheric oxidation, source of rancidity and strong, unpleasant taste. In both fruits and fish, Pfizer Ascorbic-Citric Mixtures give the same effective control of oxidation *at much lower cost.* For more information about Pfizer antioxidants call or write...

CHAS. PFIZER & CO., INC.

630 Flushing Ave., Brooklyn 6, N. Y.
Branch Offices: Chicago, Ill.; San Francisco, Calif.
Vernon, Calif.; Atlanta, Ga.

Manufacturing Chemists for Over 100 Years

Pfizer

MANY *Styles* AND *Sizes*

...BUT ALL ANCHORGLASS CONTAINERS HAVE THE SAME QUALITIES

THEY are uniformly strong, tough, dependable lightweight glass containers—high in chemical durability, accurate in dimensions, capacity and finish. They are designed to withstand the knocks of modern high speed production lines, handling and transportation.

Anchorglass containers are the result of practical engineered designs, careful selection and control of raw materials, uniform distribution of glass, precise temperature control in annealing and thorough quality control through laboratory tests and regular inspections.

If you package or contemplate packaging in glass let us send you sample containers with suitable closures for your particular needs. The services of our Package Engineering and Research Laboratories are also available to help you solve glass packaging problems.

Anchorglass® Vegetable and Fruit Jars are available in 15, 17 and 28 ounce sizes, in crystal or amber glass. The 17 ounce jar at right is sealed with a 63 mm. Anchorvac N Vacuum Cap.

ANCHOR HOCKING

GLASS CORPORATION
LANCASTER, OHIO

★

The Most Famous Name in Glass

POINT UP NATURAL FLAVOR WITH GLOBE®

CORN SYRUP

The sparkling clarity and uniform high quality of Globe Brand Syrup help make a perfect canning syrup—which actually enhances the natural flavor of fruits . . . never cloys, never "masks" true fruit flavors. Globe Syrup helps preserve all the fine qualities of the wonderful fruits you pack in tins and glass.

For the canning industry Corn Products Refining Company also supplies highest quality dextrose and corn starch . . . recommended ingredients for various canning formulas.

We offer quality in volume supply unexcelled in the field. Complete technical service is available without cost or obligation. If you have a production problem why not check with Corn Products. We welcome your specific technical inquiries.

CORN PRODUCTS REFINING COMPANY • 17 Battery Place, New York 4, N. Y.

FINE FOODS

ARE A MATTER OF

Good taste

STANGE SEASONINGS

WM. J. STANGE CO., CHICAGO 12, ILL. • OAKLAND 21, CALIF.
CANADA: STANGE-PEMBERTON, LTD., • NEW TORONTO, ONT.

FOR 50 YEARS . . . "SILENT PARTNERS IN FAMOUS FOODS"

FAMOUS LAST WORDS:

Let's face it—they won't send out advance warning notices of atom-bomb attacks. They just sneak over and let go when we're least expecting it—without even so much as a declaration of war. The emergency may be an atom bomb or it may be a fire, a flood, a hurricane. It's only good business to be ready for it—whatever it is. Take these precautions TODAY:

- ☐ **Enlist the help** of your local Civil Defense Director.
- ☐ **Check contents** and locations of first-aid kits.
- ☐ **Send staff** to Red Cross courses. They may save your life.
- ☐ **Promote preparedness** in your community. Your local CD Director can show you how.

Set the standard of preparedness in your plant city—check off these four simple points NOW.

FOOD PACKER

People and Plants

L. C. Yates

W. R. Spangle

J. E. E. Griffin

C. D. Sheppard

H. D. Morris

Dr. E. M. Redding

Linwood C. Yates has been appointed secretary of the Tomato Council, Inc., Easton, Md.

Warren R. Spangle recently assumed the duties of secretary-treasurer of the Indiana Canners Assn.

John E. E. Griffin has joined Continental Can Co. as sales manager of the company's Overseas Division.

State Senator Carl D. Sheppard of Ohio has assumed full-time duties as secretary and general counsel of Grand Duchess Steaks, Inc., Akron, O.

Hale D. Morris, manager of the canned food department of Armour and Co., was elected president of the National Meat Canners Assn., Chicago, at the group's annual meeting.

Dr. Edward M. Redding has been appointed director of research and development of the Crown & Closure Division, Crown Cork & Seal Co., Inc., Baltimore 3.

The Duffy Mott Co., packers of Clapp's Baby Food, has renewed its current contract for participation on WCBS Radio for 13 weeks.

Henry B. King of Boston has been appointed executive secretary of the Cooperative Food Distributors of America.

J. R. Simplot Co., Food Processing Division, Caldwell, Idaho, announces the appointments of three district sales representatives: **Richard B. Tobin, H. Glenn Garrett,** and **Thomas E. Walker.**

Don Holler, owner of the Kent County Pickle Co., Edmore, Mich., and member of NPPA, was injured recently when he fell off a ramp and landed on his back. He will be confined to the hospital for several months.

Ross Roy, Inc., Hollywood, Calif., has been appointed by Aseptic-Thermo Indicator Co. and Sterilometer Laboratories, Inc., as agency to handle advertising for all products.

Dr. Donald J. Fieldhouse of Madison, Wis., has been named assistant professor of horticulture at the University of Delaware.

Mrs. Paul's Kitchens of Philadelphia has announced the promotion of **John J. Kelly** to director of sales and marketing.

Diamond Alkali Co., Cleveland 14, has announced the following changes: **C. A. Butler, Jr.,** has been promoted to the new post of director of commercial development; **Loren Scoville** has been named director of engineering, and **Fred A. Craine** has been appointed general credit manager. In the Chlorinated Products Division, **Dr. D. J. Porter** has become assistant general manager and division research director, and will be assisted by **Dr. J. J. Lukes,** research manager; **W. B. Beeson, Jr.,** is now product sales manager; **W. J. Esselstyn,** is solvents sales manager; **M. T. Walsh** is sales manager in charge of Chlorowax and related products; and **D. C. Nevling** is now divisional administrative assistant.

The Foxboro Co., Foxboro, Mass., is erecting a new branch factory which will double the Dallas facilities of the company.

Max Ams has announced its merger with the National Almond Products Corp., Brooklyn 21. **Milton S. Jennings** is president of the new Max Ams Division of National Almond Products Corp.

Charles G. Mortimer was elected president and chief executive officer of General Foods Corp., White Plains, N. Y.

The Thatcher Glass Manufacturing Co., Inc., Elmira, N. Y., has announced the retirement of **H. Parke Schrader,** manager of the company's Philadelphia office, and the appointment of **Joseph L. Stanley** to succeed him in that position.

Packer Machinery Corp., New York 3, announces the appointments of Palmer Supplies Co., of Cleveland and Cincinnati, and Ace Processing Equipment Co., Chicago, as agents.

Henry J. Howlett has joined Robert Gair Co., Inc., New York 17, as a special representative for the company's container division.

Knouse Foods, Peach Glen, Pa., has appointed three additional food brokers to its sales staff: James Donlon & Associates, Buffalo, N. Y.; Head-Hilleary, Inc., Louisville, Ky.; and Stoker Sales Associates, Inc., Shreveport, La.

Wilfred Turbeville of Aluminum Company of America's Cleveland sales office, has been named to the newly created post of manager of industrial foil sales, with offices in Pittsburgh.

Ball Bros. Co., Inc., Muncie, Ind., has announced virtual completion of initial phases of a continuing program to modernize management, manufacturing and sales and the shifting of operating responsibilities from **Duncan C. Menzies,** executive vice president and general manager, to the managers assembled for Ball within the last four years.

Louis B. Neumiller has been elected chairman of the board of Caterpillar Tractor Co., Peoria, Ill.

Ross E. Jones, Jr., has been advanced to the new position of general manager of distribution of H. J. Heinz Co., Pittsburgh.

West Coast Growers & Packers, Inc., Fresno, Calif., has chosen **Leon Gazarian** as manager of its newly created industrial sales department.

J. A. Langley has become assistant head of the Libby, McNeill & Libby pickle and olive product department, Chicago.

Gerber Products Co., Fremont, Mich., has announced the appointment of **James S. Conner** as sales manager for the newly created New England Division and **Harry H. Borgard** as sales manager for the new Middle Atlantic Division.

Maurice Bond will become director of extension services for the State of New York July 1. He will succeed **L. R. Simons,** who is retiring.

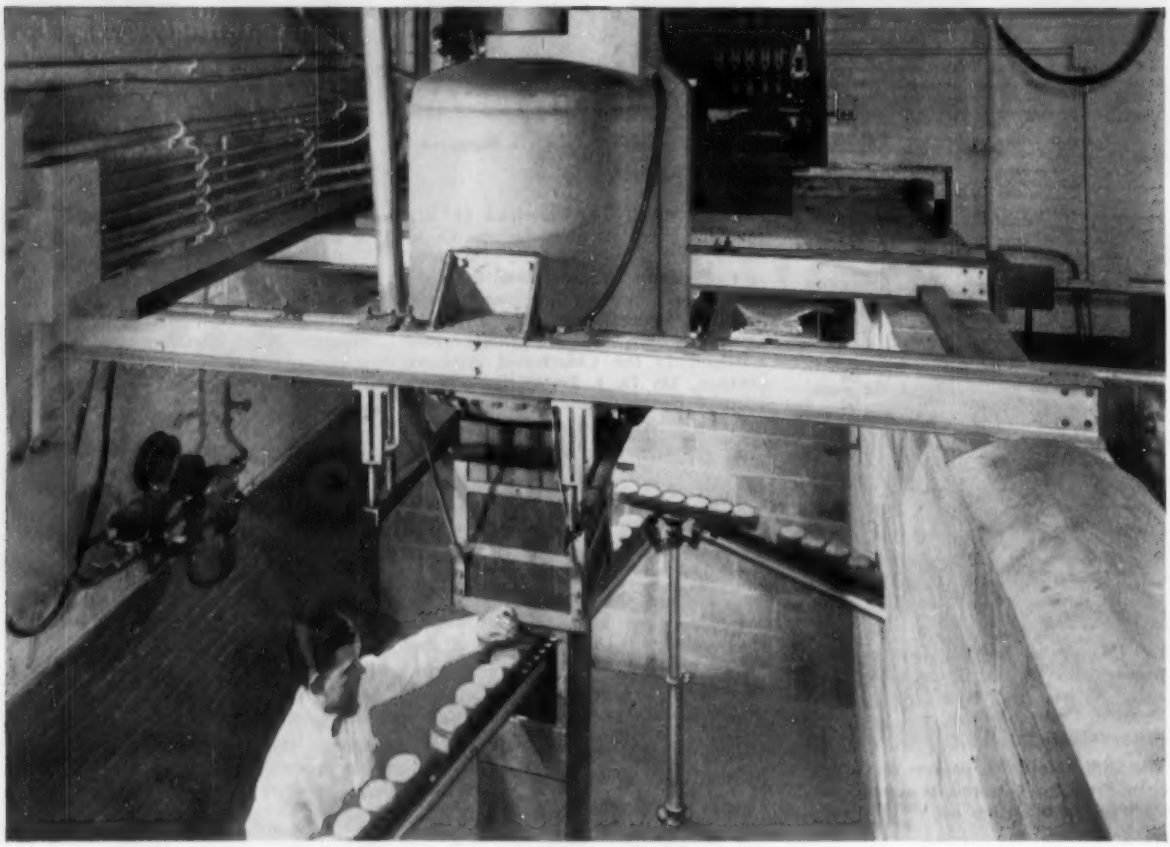
Bush Brothers and Co. of Dandridge, Tenn., has recently become the 45th member of the National Kraut Packers Assn., Oak Park, Ill.

Fred J. Watt has been named manager of a newly combined section of Worthington Corporation's Air Conditioning and Refrigeration Division, Harrison, N. J. The new section is known as the Central Station and Ammonia Equipment Section.

William H. Mandeville, vice president, director and chairman of the executive committee of Thatcher Glass Manufacturing Co., Inc., Elmira, N. Y., died recently.

George L. Richmond, president of Bloomer Bros. Co., Newark, N. Y., died recently as the result of a heart attack. He is survived by his widow, Mrs. Alice H. Richmond, and a daughter, Elizabeth.

Want to improve your food preservation methods?



At the laboratories of Swift & Company, this 1,000,000-volt G-E electron generator is being used to study the cold sterilization of meat.

General Electric invites you to cooperate in investigating the tremendous potential of electron sterilization

The ideal method of food preservation must:

Destroy bacteria and mold.

Add little to cost.

Not change food characteristics.

At this time electron beams offer an ideal solution for two of the three requirements. Research by General Electric since 1926 has proved them lethal to microorganisms. And in many cases costs will be lower than those of present methods, such as freezing, salting or canning.

It is on the third front that much research is necessary. Changes in taste and color vary tremendously among different products. For example, milk is particularly sensitive, whereas the taste of bread is hardly affected.

The point is — each product requires extensive, individual investigation. *General Electric offers food processors the ideal plan for this purpose:*

(1) We conduct preliminary tests in the General Electric Laboratory on your product, with your cooperation.

(2) Should these tests show promise, we will *rent* you equipment for use in your own plant. Swift & Company has been working for two years with a machine leased under General Electric's Maxiservice® rental plan.

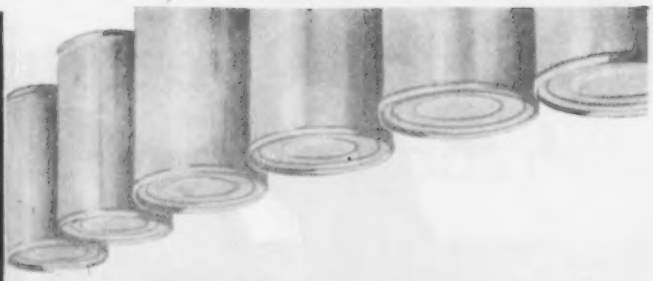
If this plan appeals to you, you are invited to discuss your problems. Technical literature is also available from X-Ray Department, General Electric Company, Milwaukee 1, Wisconsin, Rm. AG54.

You can put your confidence in —

GENERAL ELECTRIC

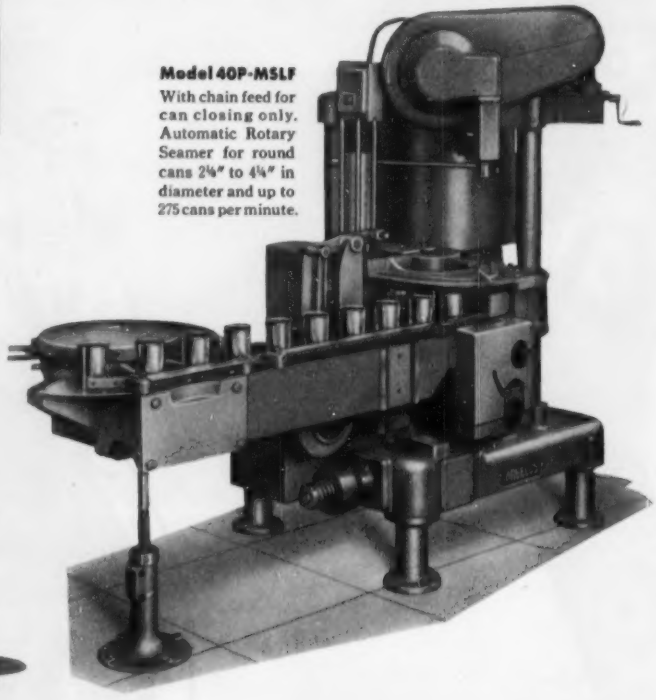
Reach!
PEANUT BUTTER
HOMOGENIZED
SPANISH
OLIVES
No, it's not the command of your favorite private eye. It's the simple, dignified, eye-filling request of an H-A glass container to be removed from the dealer's shelf.
Every H-A glass container—stock design or special mold—is planned with "Buy Me Appeal"; planned by experts who are interested in all your packaging problems, sales as well as processing. Cap it with an H-A litho-graphed closure, and your glass sales package is complete.
HAZEL-ATLAS GLASS COMPANY
Wheeling, West Virginia

cut costs with Angelus Seamers

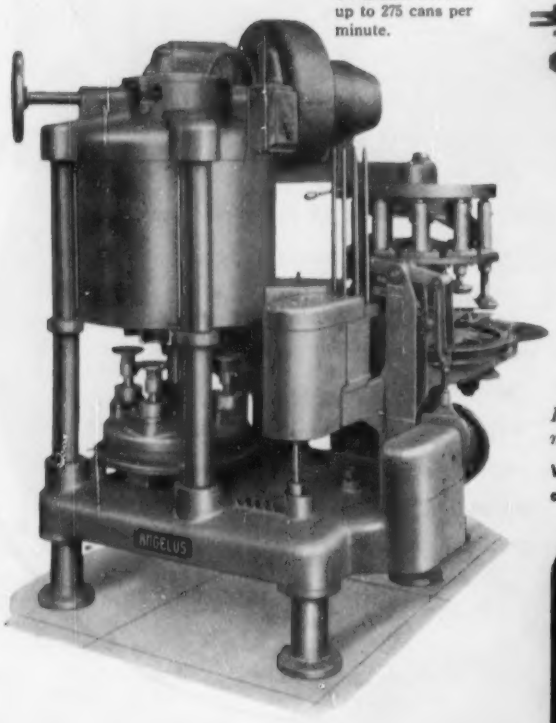


More canners and can manufacturers throughout the world are switching to Angelus Seamers for greater production economies, lower investment costs and minimum maintenance. Angelus Seamers, the products of more than 40 years of experience in developing and manufacturing, are the ultimate in simplified, rugged, efficient design.

Model 40P-MSLF
With chain feed for can closing only. Automatic Rotary Seamer for round cans 2¼" to 4¼" in diameter and up to 275 cans per minute.



Model 40P-DF
For can closing and can making. Automatic Rotary Seamer with disc feed for round cans 2¼" to 4¼" in diameter and up to 275 cans per minute.



Investigate the advantages of low cost production, low cost investment, and low cost maintenance with Angelus Automatic Seamers.

Write today for complete details on models and an Angelus Engineered Application Recommendation.

ANGELUS

Sanitary Can Machine Company
Cable Address "Angelmaco" Western Union Code
4900 Pacific Boulevard • Los Angeles 58, Calif.

How many man-hours can the MORTON BRINEMAKER save in your plant?

Just figure the costly man-hours spent hauling salt to all the areas in your plant where it is needed.

Those are the man-hours the Morton Brinemaker can save you, if your canning operation is adaptable to brine salting. And we believe you will find them considerable!

Brine at the turn of a tap

The Morton Brinemaker delivers clear, fully saturated brine that can be pumped from a convenient ground floor location anywhere in your plant. Brine is always available where and when you want it, in the most convenient way possible!

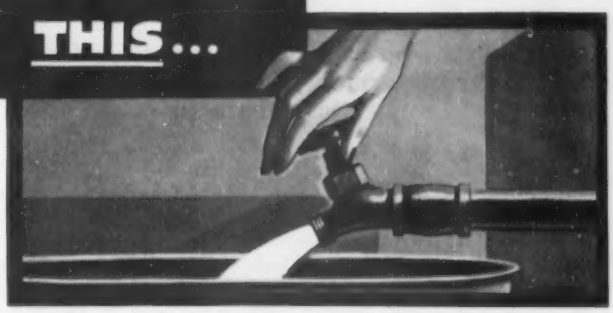
Up to 800 gallons an hour

Using the type of salt that is most economical and best suited for your needs, the Morton Brinemaker can deliver up to 800 gallons of saturated high-purity brine an hour. As much or as little as you need is always on tap. Models designed for Morton high-purity evaporated salts rarely need be shut down for cleaning.

How about your plant?

In many types of canning, the Morton Brinemaker can save real money as well as provide the most convenient salting operation of all. How about *your* operation? Mail the coupon below *today* for full information!

THIS...



Brine on tap
anywhere in your plant

INSTEAD OF THIS

Wasted man-hours
hauling salt where needed

MAIL TODAY!

MORTON SALT COMPANY
Industrial Division
120 S. LaSalle St., Dept. FT.-5
Chicago 3, Illinois

Please send me full details on the Morton Brinemaker. I would also like information on:

☐ Morton Canning Salt ☐ The Bulk Salter ☐ The Salt Tablet Depositor

Name and title_____

Firm_____

Address_____

City_____ Zone____ State_____

FT.-5 *(Brinemaker not available on West Coast)*

Washington and You

Robert Y. Kerr, Washington Editor

That ol' cat's coming back again in the form of S. 3052

Current controversy indicates that Secretary Benson's crusade to free farmers from federal fetters seems to have "missed connections at the junction"

"THE CAT CAME BACK, for it couldn't stay away!"

It's Section 401 (b) of Senate Bill 3052 at which we're pointing; a Section the National Canners Association says would put every canner and freezer under compulsory orders to reduce production. It would control their operations by limiting the size, grade, and quality of every vegetable or fruit that any canner or freezer, in any state or area, took for processing from any grower.

That's a rugged statement. It's meant to be.

Ten times in 20 years this compulsory-orders idea has yowled its urgent arias, in the light of the whimsical moon. Ten times in the same 20 years Congress has hoisted a window and has knocked Ol' Thomas off the garden fence with a legislative bootjack. . . . And here he is again!

S. 3052 calls itself "A Bill to encourage stable, prosperous, and free agriculture and for other purposes." Food processors have been looking at that one, but hard; especially the "free" part, and the unspecified "other purposes."

These recurring efforts to put marketing orders—not marketing agreements but marketing orders—into the big food industry pattern have marched under a variety of flags. Sometimes it's been emergency legislation; sometimes it's been experimental projects; sometimes it's been a prescription for some canning crops that were feeling poorly. Always, of course, there was the matter of imposed controls, as there is in the current effort. It's number 11.

This time, however, the industry is told there's to be no control stuff imposed on the production and marketing of canned foods. It's to be merely a control over the raw materials that may be taken from the growers to be processed! NCA points out the simple fact that "by controlling raw materials, these orders control canning." Furthermore, since the materials under consideration are fresh fruits and vegetables, the processors are to have no part in the regulatory business. Again referring to the NCA summary, all these controls are to be administered by *grower* committees, with power to levy private assessments on processors to pay the cost of these controls. And these funds would be managed by the grower committees and not under the management of Congress.

No one likes to think that men holding responsible positions in legislative or executive offices are given to frivoling. This page makes no such suggestion. There may be reasons, good or not so good, why this 20-year campaign has been waged to put essential mastery of the canning industry into the hands of growers who, as the NCA points out, are not engaged in canning, have no investment in that industry and assume no risk, and who have no knowledge of canned food marketing. It should be made clear that in this proposed control pattern there is to be no participation by canners and no canner vote on whether any program is unwise, impracticable, or destructive.

It's a reasonable guess that, in the earlier years of this continued story, growers had the resentful feeling of being placed on a take-it-or-leave-it basis by processors; that they didn't have much to say about their own markets or about prices they received. That may have been the original urge. But it seems that something new has been added or even substituted. At least USDA seems to have more than a paternal interest in these marketing orders. There's the matter of acreage diversion, to which we'll come in a couple of minutes.

Meanwhile, a look at the record would indicate that the growers have been doing all right. During the past 20 years somebody has developed big increases in the markets for canning crops. Using the 1934 figures as a base, the production of canned vegetables, fruits, and juices has increased 340 percent. Per-capita consumption of these products has increased from 42 pounds to 104½ pounds; a ratio much above the increase in population. In order to make this possible the industry has had to develop vast new canning areas; in the Atlantic States, the Midwest, the South, California, and the Pacific Northwest. The per-acre increase in cash returns to the grower has been rather spectacular: Tomatoes, six and a half times; beans and corn, four to five times. Canning fruits and vegetables have in general held a better parity ratio than have controlled commodities. Furthermore, consumer prices have been lower, by close to a third, than the index figure for *all* foods.

This combination of higher prices to growers and lower prices to consumers has been made possible by the marketing efforts and knowledge of processors, plus the added investment and modern mechanism that processors have put into the industry.

Costs consumers more

Karl Loos, solicitor for USDA (recently resigned) testifying before the Senate Committee in favor of S. 3052, said its purpose is to allow fruit and vegetable growers "to enter into a marketing order program to limit either the quantity or quality of the fruits or vegetables that will go into processing plants." Answering a question asked by Senator Ellender, the Solicitor said the object of the proposed legislation was to get higher prices for the grower. The Senator continued: "And of course it would ultimately mean a higher price for the consumer?" Solicitor Loos: "Yes, sir, all of these marketing orders mean a higher price to the consumer to get a higher price for the producer." Producer, in that statement means grower. And so, Friends of our Better Days, this IS something new. For 20 years, growers were getting higher and higher cash returns per acre, while processors held prices to consumers well below the over-all average of the food market. That's now old hat, seems like.

So we come to the current toughie; the new juvenile delinquent. It's the problem of diverted acres.

When Secretary Benson came to Washington, his passion was to free

(Continued on page 40)

A guarantee packs more punch when you plug it on your cap

Introducing a new product? Want to "hypo" off-season sales? Need a theme for a special promotion? These are three situations where a money-back guarantee on your product can do a real selling job.

Lithographed on your cap, this guarantee packs a potent one-two sales punch. One: the colorful cap itself flags shoppers' attention, especially from lower shelf positions. Two: the money-back offer wins customer confidence, encourages them to try your brand.

The top of your cap is advertising space you've already paid for. So why not put it to work as a point-of-sale billboard. For complete details, contact your nearby Armstrong office or write Armstrong Cork Company, Glass and Closure Division, 5205 Cherry Street, Lancaster, Pennsylvania.

ARMSTRONG'S METAL CAPS

Open with a twist! *Close with a twist!*

Why do I like to do business with CROWN?
Because, as a can manufacturer,
CROWN is just the right size for me.
They provide me with fine quality
cans and dependable service—and,
beyond that, are always genuinely,
personally interested in my business
and my problems. From experience I
know that my orders are important to
CROWN. Dealing with CROWN gives me a
feeling of security!

Cordially yours,

CROWN CAN
DIVISION
CROWN CORK & SEAL COMPANY, INC.
One of America's Largest Can Manufacturers

PHILADELPHIA • CHICAGO • ORLANDO • NEW YORK • BALTIMORE • ST. LOUIS • BOSTON

MAY, 1954 **Food Packer** VOL. 35, No. 5

CANNING • GLASSPACKING • FREEZING

BETWEEN THE LINES

AT THE UTAH CANNERS ASSOCIATION ANNUAL MEETING (l. to r.) D. J. Isom, association president; Edward E. Willkie, president of the National Canners Association; J. Russell Esty, director, western laboratories of NCA; and Carlos Campbell, Washington, NCA executive secretary.

Willkie is feature speaker at Utah meeting

E. E. WILLKIE, PRESIDENT of the National Canners Association, told members of the Utah Canners Association that canned foods "are the consumer's best food buy of the year." He spoke at the Utah group's 42nd annual convention, held in Salt Lake City in March.

Willkie cited government statistics that show that canners pay 2½ times more for raw food and three times more in wages than they did 15 years ago; and yet retail prices of canned fruits and vegetables during this period rose by only two-thirds. He said that canned-food prices have risen only three percent in the last five years, while prices of all foods have gone up 14 percent.

"Today's canned-food prices average seven percent below the OPS ceilings in effect in June 1952," he said, "and clearly establish canned foods as the consumer's best food buy for this year." He added that Americans enjoy a great many privileges not available to citizens of other countries, one being that we eat better.

"There are two principal reasons why we eat better," Willkie continued, "First, because there is an ample supply of food of a sufficiently varied nature to please almost any appetite; and second, the average American has enough income to buy all the food he wants. This food bill in the nation runs between $55 and $60 billion annually, or about $365 for each individual."

Willkie said that about 25c of each income dollar is needed to buy food, and that the canner is out to get as much as possible of the business represented by the food dollar spent per person each day. "Canned foods have for many years appealed to the consumer in increasingly large measure because of the economy factor," he said.

Carlos Campbell, executive secretary of the National Canners Association, and Dr. Russell Esty, director of NCA's western laboratory, spoke on progress and development in their various branches.

Donald P. Lloyd, general manager of Associated Food Stores, Inc., Salt Lake City, discussed canned-food promotions, and Fred M. Moss, Idaho Canning Co., Payette, commented on the consumer program now under way by NCA to popularize canned foods.

Indiana canners should take lead in promoting juices–Ratzesberger

Indiana canners were urged to take the lead in promoting sales of canned juices for consumption, not only at mealtime, but also between meals, by Louis Ratzesberger, Jr., last year's president of the National Canners Association.

Ratzesberger, president of the Illinois Canning Co., told the Indiana Canners Association at its spring meeting in Indianapolis in April that the time has come to create the "juice habit" throughout America. He said that more canned juices would be consumed if the public were only informed of their good taste, wholesomeness, high nutrition, economy, and all-around convenience.

It would be appropriate, he suggested, if Indiana canners, who are credited with introducing canned tomato juice and making it popular, were to promote canned juices as a perfect drink at any hour of the day.

"Indiana's introduction of tomato juice to the American diet was a history-making event. It ushered in a series of canned fruit and vegetable juices now totaling more than 40 different kinds, with an annual production of more than 100 million cases," he said.

Annual IFT meeting to cover many subjects

Developments in virtually every phase of food technology will be discussed in the forthcoming annual meeting of the Institute of Food Technologists, to be held at the Biltmore Hotel, Los Angeles, June 27-July 1, according to C. S. Lawrence, IFT executive secretary.

Tri-State packers and NCA officials talk over the National Canners Association's new consumer and trade relations program at the Tri-State spring meeting. Sitting, l. to r., are: Nelson Budd, NCA director of information, and W. A. Free, Sr., Hungerford Packing Co., and chairman of the public-relations committee. Standing, l. to r., are: Don R. Callahan, Dudley, Anderson & Yutzey; Glenn E. Knaub, P. J. Ritter Co.; and W. D. Leatherbury, Eastern Shore Canning Co.

American Can Co. starts another new plant, this time at Denver. Here at ground-breaking ceremonies are, l. to r., F. B. Newcomb, Canco's central division manager of sales; M. P. Cortilet, division vice-president; and W. H. Etzbach, Rocky Mountain district sales manager. Plant will have rated capacity of 125 million containers annually and will serve important canning centers in Colorado, Wyoming, Western Nebraska, and New Mexico. Building is of brick, glass, and aluminum.

In addition to a well-rounded program on the established categories—fruits and vegetable research and technology, fish and meat technology, sensory testing of foods, food packaging, etc.—symposia and sessions have been added that are either new to IFT meetings or novel in their organization. The session on marketing, for example, adds a new note to IFT meeting agendas. Business opportunities in the grocery field, food advertising, marketing and distributing foods, and evaluation of marketing programs will be the topics.

There is scheduled a session on wine stability; one on consumer testing that will emphasize its methodology and techniques; federal and state food and drug laws will be analyzed and discussed. This subject is one of vital interest, and the program is designed as a seminar in the law as it affects foods.

Other major topics for discussion include plastic films, paperboard containers, metal-, glass-, and shipping containers; pectin; citrus concentrates; effect of chemicals on flavors of food; role of fats in the diet; and special-purpose foods.

Cherry Institute re-elects officers

The National Red Cherry Institute re-elected the following officers at its annual meeting held recently: Wm. B. Powell, executive secretary-treasurer; Gary S. Morgan, John C. Morgan Canning Co., Traverse City, Mich., president; and Ben F. Batcheler, vice-president. Institute's offices are at 35 E. Wacker Drive, Chicago 1.

Aldrin accepted

Aldrin, an insecticide used for seed treatment, was recently granted label acceptance by the U. S. Department of Agriculture. The new material, distributed by Shell Chemical Corp., is effective on such crop seeds as beans, peas, cucumbers, sugar beets, and small grains.

White Cap gets 25,000 requests for opener

Nearly buried under a deluge of more than 25,000 responses to an offer of a unique kitchen utensil by Ruth Lyons on her show on WLW-TV, is Dorothy Backstrom of the White Cap Co. of Chicago. The utensil is a key-type opener for glass-packed foods that are sealed with pry-off caps. On the basis of the huge response, White Cap has extended the offer to TV and radio stations throughout the country.

NAFFP reports on use of some 1953 labels

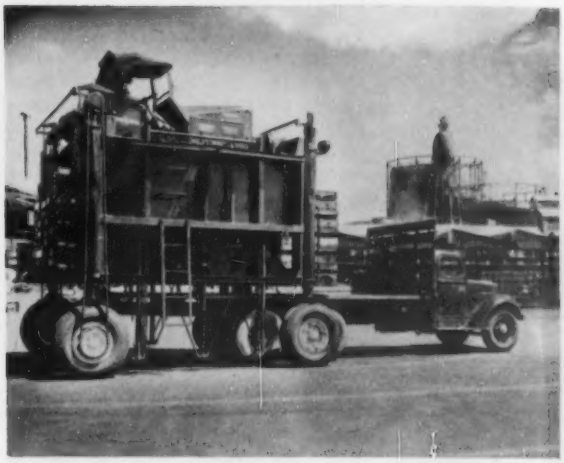
The National Association of Frozen Food Packers announces that the Food and Drug Administration has agreed to permit the frozen food industry to use certain label inventories for 1954 packs of peas, lima beans, and mixtures of these products, even though such labels do not include a salt declaration, provided such labels were carried in inventory prior to Nov. 14, 1953. It is reported, however, that labels ordered after that date and all labels for the 1955 packs of affected products will be required to bear the declaration of the presence of added salt.

Wisconsin canners urged to back industry drive

Wisconsin canners were urged by George Anderson of Dudley, Anderson and Yutzy, New York, to participate in a national drive being launched to widen consumer appreciation of canned foods.

Speaking before the Wisconsin Canners Association at its spring sales conference in Milwaukee, April 7, Anderson declared that "Today we are on the brink of the greatest revolution in the food industry. The consumer is being bombarded on all sides in a free-for-all for the biggest food dollar in history. Supermarkets today are selling 5,000 to 8,000 items while 20 years ago the average grocery store stocked 500 items."

He said that about 50 percent of women under age 35 work full time, and that 25 percent of all women work at least part of the time. "We believe that this is the answer, in large part, to the historically unusual situation of the younger housewife accounting for a major segment of the canned foods purchases," Anderson added.



"Over-the-load" carriers are used for transporting crates of pineapple at Dole Hawaiian Pineapple Co. plantation and processing plant in Honolulu. Carriers are made by Clark Equipment Company.

Richard J. Martin (right), juice-extraction foreman at Libby, McNeill & Libby's Honolulu cannery, discusses centrifugal-operation idea with Dewitt McCloskey, Libby's director of research in Honolulu.

Other speakers on the program included Don Callahan, DAY; F. J. Dowling, American Can Co.; Delbert Johnson, Continental Can Co.; and Theodore R. Sills, public relations expert.

A feature of the conference was a panel discussion, "How can brokers' and canners' ethics be improved?" M. P. Verhulst, executive secretary of the association, was the moderator. Panel speakers were J. P. Kraemer, Mammoth Spring Canning Co.; H. J. McCarty, Brownsville Canning Co.; F. C. Roehl, F. C. Roehl & Co.; and W. H. Ross, Leininger & Co.

Employee idea boosts Libby pineapple juice production

An employee suggestion modifying operation of the high speed centrifugals and presses has brought a production increase of 95,000 cases of pineapple juice a year at Libby, McNeill & Libby's Honolulu cannery.

For his idea saving more than $50,000 a year for Libby, Richard J. Martin, juice extraction foreman in Honolulu, received a $5,000 award under Libby's employee suggestion plan. (See photo this page)

Although the exact nature of the modifications is considered a competitive trade secret, the innovation is described as providing for "multiple circulation of a portion of the juice bearing ingredients to provide greater recovery of cellular juices." The centrifuges used are Sharples, D-V2 External Control.

Five months of laboratory tests on the new system, which involved no new equipment, proved that in addition to the increased production, uniformity and quality had also been improved.

When Martin first submitted his suggestion in March 1953, it was rejected on operational grounds. He continued the development with laboratory assistance and resubmitted the idea in August.

Plant tests were then o.k'd. Five months later, the idea was approved for adoption—only weeks after Libby had increased the maximum award, under its national plan, from $500 to $5,000.

The National Canners Association and many prominent canners and freezers have testified against proposed legislation that would authorize marketing orders on crops grown for processing.
Bob Kerr, FOOD PACKER's Washington reporter, has ably interpreted the meaning of this legislation for our readers. *See page 18.*

Dole is using Clark "over-the-load" carriers in Honolulu

The Dole Hawaiian Pineapple Co., Honolulu, is making substantial savings in its materials-handling costs by using straddle carriers manufactured by the Ross Carrier Div. of Clark Equipment Co., Benton Harbor, Mich. (See photo this page)

The straddle carrier differs from other types of materials handling equipment in that it travels "over the load" and "over the road." As a result, it can carry much heavier loads farther and faster than conventional materials handling equipment, such as fork trucks. A film recently released by Clark shows Ross carriers in capacities from 10,000 to 45,000 pounds traveling through city streets and over highways.

In the Honolulu operation, the carrier straddles the flat-bed trailer to deposit or unload standard-container loads of pineapples.

Continental Can sales up in 2½ months

Sales of Continental Can Co., New York, in the first 2½ months of this year moved $20 million higher than the corresponding period a year ago, Gen. Lucius Clay, chairman of the board of directors, reported in Chicago recently.

For the entire year, Clay said, Continental has budgeted for sales of $620 million, $66 million more than in 1953. Of the sales upturn in the first 2½ months of this year, 13 percent was because of increased business and seven percent from acquisitions. Contributing to the business increase were heavier packaging of coffee early this year than last, and expanding canning of citrus concentrates.

The general said his company is not disturbed by the present downturn in the country's economy. Rather, he added, the company believes it should continue to expand.

NCA to develop canned foods reference book

National Canners Association has announced plans for preparing a canned foods reference manual covering all phases of the canned foods story. This development is part of the NCA consumer and trade relations program. The manual, to be of loose-leaf form, will cover history, nutrition, economy, economic importance, and detailed information on about 50 major canned foods.

H. F. KRIMENDAHL (center, seated), president of Stokely-Van Camp, Inc., is shown here with other management members, (seated, l.) L. J. Noonan, vice-president in charge of sales; (seated, r.) Alfred J. Stokely, assistant to the president; (standing, l. to r.) John A. Robins, assistant to the president; W. C. Kruger, vice-president in charge of production; and C. A. Nugent, treasurer. W. B. Stokely Jr. (not shown) is chairman of the board.

Van Camp's Pork & Beans, Stokely's No. 1 product, is packed efficiently at company's Indianapolis plant

Part I of the Stokely story describes production and quality control of this famous food product

BILL SCHAAL, Editor

Part I

VAN CAMP'S PORK AND BEANS, the largest selling product of its kind in America and Stokely-Van Camp's No. 1 product sales-wise, was developed in an Indianapolis warehouse nearly a century ago.

Today's streamlined, highly mechanized, and efficient pork and bean operation at Stokely's East Street plant in the same city is a far cry from the crude methods used to pack this famous food during the Civil War years and subsequent years of the 19th Century.

This seven-story building, located in the flourishing manufacturing district in Indianapolis' south-east side, is built of steel-reinforced concrete and faced with brick. Eighteen canning lines operate within the building, and five lines can pack pork and beans simultaneously, with production running into hundreds of thousands of cans daily. An American Can Co. plant is located nearby, and new cans enter the Stokely plant via conveyor.

It is the largest of Stokely's 63 plants and its pork and bean operation accounts for more than half of the company's annual production of this product. The company's quality control headquarters for its far-flung system is located in the Indianapolis plant. Product samples from all of its plants converge at this plant daily for quality analysis and testing. One of the six Stokely "master" warehouses is part of the building. Under this system, all products packed by the company in any of its plants are available at all times from this plant.

Although Stokely sells more than 100 different food items, none is richer in heritage or is surrounded by more romance and sentiment, as far as the company is concerned, than Van Camp's pork and beans. Gilbert Van Camp, that enterprising ex-stove salesman who gave this product to the world, stated back in 1861 that "My ambition is to can a product of universal use and appeal—beans—and to can them so that they would be thoroughly and uniformly baked; each and every bean cooked to mealy tenderness."

Ask Stokely's Chairman of the Board W. B. Stokely Jr., President H. F. Krimendahl, or other members of the management staff, and they'll tell you that yesterday's run of Van Camp's pork and beans was packed with the same purposes in mind. Naturally, the passing of years has brought changes and improvements. The multitude of worthwhile developments over the past decades, including the vast advances in technology and sales procedures, and the relatively new science of technical quality control, have been applied so liberally to this product that the company's sales force honestly proclaims to customers and consumers that "There's no other bean on the market like Van Camp's."

One noteworthy advance in the production of the product was the discarding of the old batch-type soak tanks several years ago. Stokely in-

THE BIG, BUSY INDIANAPOLIS STOKELY plant where "heat-and-enjoy" foods are packed around the clock and the calendar. In foreground is American Can Co. plant which serves Stokely.

Plump beans leave the final blancher in the system, pass over a vibrator where they are rinsed and excess water is shaken off, then enter the hopper which takes them to inspection tables on floor below.

At Stokely's Indianapolis plant (l. to r.) L. F. Rutledge, quality control director; George Reneau, plant manager; and D. T. Sherow, assistant QC director, daily check samples of Van Camp's pork & beans.

stalled in place of this batch method a continuous system of cleaning, soaking and entire preparation of dry beans for filling. This continuous action heats the bean and softens its skin, enabling it to take up the necessary moisture. "This new method accomplishes in a relatively short time what formerly took hours," says George D. Reneau, manager of the Indianapolis plant. Also the automatically controlled continuous system permits water absorption rates to be controlled much more accurately than under the batch soak method.

Cover picture

There's choice pork in each can of Van Camp's pork and beans. The square of meat is dropped into the empty can just prior to filling.

This continuous system of preparation of pork and beans used in Stokely-Van Camp plants was developed by Stokely-Van Camp laboratory technicians and engineers, and is the result of many years of experimentation and research. Through the efforts of company industrial engineers, the idea of streamlining the cleaning and soak process was applied to the entire pork and bean operation, with the result of overall savings in labor and material.

Dry beans used at the Indianapolis plant come mainly from Michigan. They are bought on a definite grade basis, choice hand picked, or the equivalent, and test about 16 percent moisture on arrival at the plant. First they are dry cleaned to remove pods, broken beans and other foreign material on a conventional pea & bean cleaner which is connected to a dust collector. All dust and debris coming from the cleaner passes into water within the collector. Periodically the sludge is washed away.

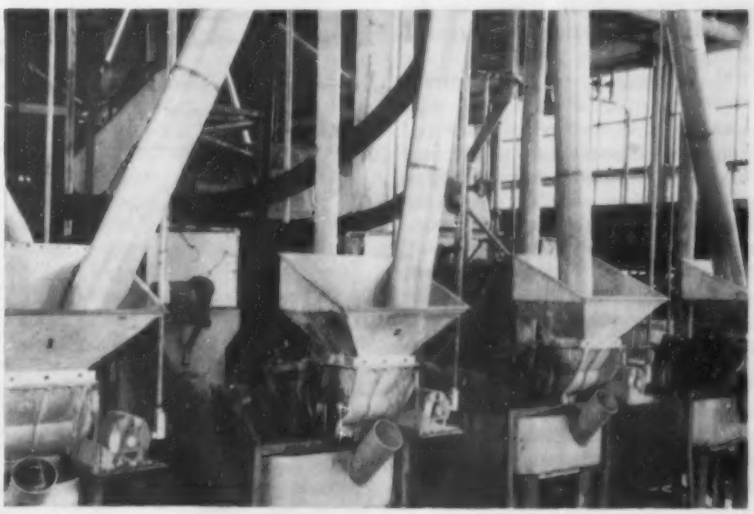
Elevated to roof storage

The cleaned beans are taken from the basement by means of a bucket elevator to an enclosed storage bin on the building roof, from where they pass through tubes to four feeders located on the top floor of the building. It is here that the flow of beans throughout the entire plant is regulated. Specially designed pumps take the beans from the feeders to the first step of the soaking operation. Enroute through the system the beans pass over three series of riffles that remove any heavy foreign material that may not have been previously removed by the dry cleaners. "This riffle system definitely is an important feature in maintaining cleanliness of our pork and beans," Mr. Reneau explains. Further protective measures are effected by the use of strategically placed magnets, therefore it is practically impossible for any stones or other foreign material to remain with the beans at the end of the preparation process.

As a final step in this continuous

(Continued on page 36)

Here's the control point for regulating the flow of beans through the cannery. Overhead pipes feed dry beans from the roof storage bins to four feeders shown here. From the feeders, beans are pumped to the continuous blancher system where they are heated and "plumped" up.



Quality Control Clinic

WILBUR A. GOULD, PH.D.
Ohio State University
Quality Control EDITOR

TOMATOES - RAW PRODUCT EVALUATION I

Variety:-
Seed Source:- Lot No.:-
Date of Planting:- Transplanting Date:

Harvest Date:-					
Yield (lbs.)					
% No. 1's					
% No. 2's Color					
% No. 2's Defects					
% Culls					
Firmness No. 1's					
Shape					
Count/25 pounds					

Technologist:-

TOMATOES - RAW PRODUCT EVALUATION II

Variety:- Date:-

	Field Run	No. 1's	No. 2's Color
Ave. Cut surface color			
Ave. Wall Thickness (mm.)			
% extractor yield			
Pulp Color-Hunter			
Pulp Color-Agtron			
% soluble solids (20°)			
% citric acid			
pH			
Vitamin C (mg/100 gm.)			

Technologist:-

Records are all important; forms such as these help the research worker in establishing and maintaining data that result from field & laboratory tests

Ohio trials give accurate varietal data on tomatoes for processing

Cooperation between field and laboratory personnel results in sound evaluation of varietal characteristics

ONE OF THE MOST IMPORTANT factors affecting the quality of processed fruits and vegetables is the particular variety of fruit and vegetable being grown and processed. Throughout the entire United States, food processors, growers, seedsmen, and Experiment Station personnel carry on variety trials every year. Some of these trials are very extensive. The individual groups may evaluate the variety for desirable field characteristics, yield, quality of the raw product, and the yield and quality of the processed product.

At the Ohio Station vegetable and fruit research workers cooperate very closely in the variety evaluation studies. Extensive studies are carried on with fruits (apples, strawberries, raspberries, peaches, and blueberries) and vegetables (snap beans, tomatoes, corn, and cabbage) annually. The production personnel study the field and yield characteristics of the different fruit and vegetable varieties, while those of us dealing with processing evaluate the raw product quality and study the retention of this quality during processing and during given periods of storage.

In this article, a few of the outstanding new varieties of tomatoes are discussed from a quality viewpoint. Before discussing these, however, it should be pointed out that wherever possible, objective tests for quality should be used. Many of these methods of determining quality have been discussed in this column. For example, with tomatoes, the most important single characteristic of a particular variety is its color and its color retention during processing. This is true for tomatoes manufactured into juice and products. It is also true for tomatoes that are canned.

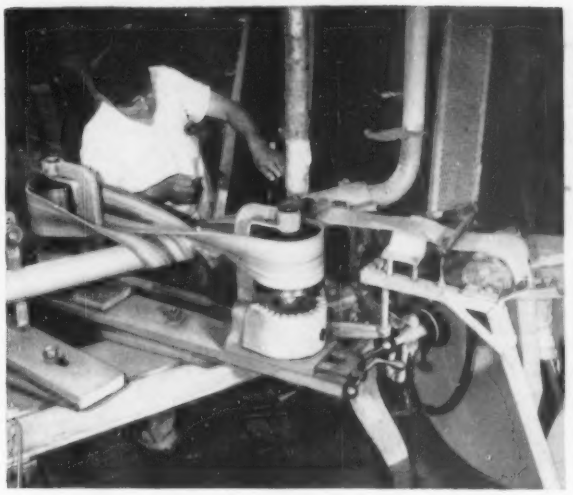
In addition, for a variety to be highly recommended for canning, it should score high on the drained weight and wholeness factors. Other factors, that are considered are: acid content, pH content, vitamin C content, and solids content. One final point should be stressed, i.e., one harvest is not sufficient to determine a variety's acceptability. This means that you should

(Continued on page 50)

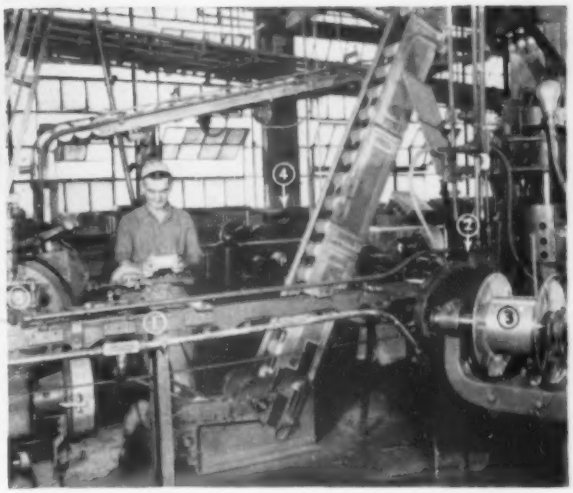
Table I.—Average grade values for ten different tomato varieties; 1953 trials, Columbus, Ohio

Variety	Average percent raw product composition			
	No. 1's	No. 2's Color	No. 2's Defects	Culls
Early Red	64.0	22.1	12.5	1.7
Red Jacket	52.9	31.6	12.7	2.2
Improved Garden State	57.4	28.0	12.6	2.0
Long Red	59.5	28.7	10.0	1.7
Ace	54.6	37.8	5.6	1.9
Kokomo	49.6	37.5	10.3	2.2
Tipton	45.1	39.4	13.3	2.4
Purdue 1361	37.8	37.2	18.5	6.0
Red Top	41.9	46.9	6.5	5.6
Rutgers	51.5	36.6	9.8	1.5

Data in Table 1 emphasize the quality differences for these different varieties. Early Red had the highest percentage of No. 1 tomatoes. This is because this variety is slightly earlier and the fruits were allowed to remain on the vines longer at the first picking for this variety as compared to the others. Ace and Red Top had the lowest percentages of No. 2's for defects while Purdue 1361 and Red Top had the highest percentage of culls. The culls for the Red Top variety were due primarily to color.



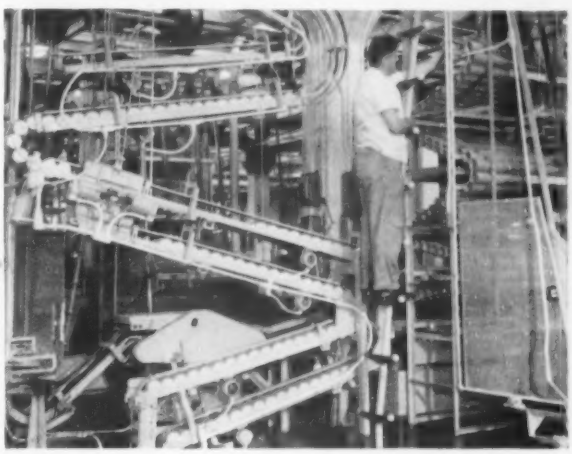
Salt package production starts here. Huge rolls of paper (right), fed in from either side to spiral winder, are joined with "korite," a special asphalt. Endless belt below operator's hand forms continuous spiral tube which is cut into long lengths by a circular knife.



Carton tops on horizontal runway (1) go through perforator which cuts out the pouring slot (2). Metal wire from large spool (3) stitches an aluminum spout on the tops. Canco automatic capper (4) joins tops and bottoms to bodies and the completed unit enters a shrinker (5).

How Canco produces the fibre salt package at high speeds in its Joliet, Ill. plant

Canco spent five years solving tricky production problems involved in high-speed manufacture of the salt carton



Long tubes of bodies rise up the unit (right) before moving down to special knives which cut each tube into seven can bodies. Finished containers (left) roll down twin runways on way to the packing room.

AMERICANS SPRINKLE NEARLY one billion pounds of table salt on their food annually and most of it comes out of the familiar, round 26-ounce paper carton with the metal pouring spout.

The fibre salt container—like other specially developed fibre and metal cans—virtually revolutionized the marketing of salt for home seasoning use. The spirally wound paper salt container with metal pouring spout, introduced by American Can Company in 1912, led to the high-speed manufacturing and packaging mass-production techniques used today.

The increasing popularity of this convenient container—which replaced bags—is indicated by the fact that Canco's present production is more than 200 percent ahead of what it was in 1940, according to R. K. Dickey, manager of manufacture for the can-making firm's Central Division.

Despite the simplicity of its appearance, the container's complexity presented a very difficult production problem when Canco first began to apply high-speed mass-production methods to its manufacture at the company's Joliet, Ill., plant.

"We actually spent five years on this problem before the five lines which produce the fibre salt container were fully automatic," Dickey said. "Today the salt cans are turned out at speeds undreamed of when we first began to manufacture them."

In the fibre container field there are wide variations in the end closures of fibre containers, but only three general types of body construction: spirally wound, convolutely wound or laminated, and lap seam. Each type, of course, has certain advantages which make it most suitable for the particular use to which it is to be put. Perhaps the most versatile of the three types of construction is that used for salt—the spirally wound can.

One property which all fibre cans must possess is structural strength. An important factor, therefore, in manufacturing salt cans and other fibre containers is the physical testing of the paperboard and paper used. Physical properties evaluated are weight, thickness, bursting strength, tensile strength, porosity, stiffness and degree of sizing.

The Canco salt container is made from materials which provide strength and durability, lend themselves to high-speed mass-production, are impervious to moisture and have a clean, attractive appearance inside

(Continued on page 51)

More and more, the leaders agree-

they sell better!

SOMETHING BIG has happened to olive packaging! Today, it's like this:

There's been a momentous change going on in the olive packaging picture, of late. More and more good olive packers have been switching over to Vapor-Vacuum Seals.

This big swing has been gaining momentum for quite a while. Now, it's reaching a truly spectacular point, with numerous leading brands added to the already outstanding Vapor-Vacuum list.

The reasons for this big swing are found not only in Vapor-Vacuum's great production line advantages. Even more, *it's because Vapor-Vacuum sealed olives sell better.* That vacuum-protected head space, with its sure preservation of color and freshness of the top layer, is a wonderful reputation builder. Because of its unique protection power, every olive in every package stays firm, fresh, and bright.

5 big advantages for olives

1. Vapor-Vacuum permits adequate head space for expansion, so that there are NO "leakers," NO messy packages, and NO returns. (Olive brine is extra-hard on cap threads. But with Vapor-Vacuum there are no threads, no leakage, and no corrosion!)
2. Vapor-Vacuum prevents formation of mold scum by keeping air away from the contents.
3. Vapor-Vacuum prevents oxidation and loss of color or flavor, so every package opens up in perfect condition—every time.
4. By re-sealing the jar *airtight*, Vapor-Vacuum protects unused portions as no other cap can!
5. Along with all these better package features, Vapor-Vacuum has the supreme advantage of cutting down excessive labor burdens by (a) increased packaging speeds, with any size or shape of containers, (b) smoother production line operations and (c) Vapor-Vacuum KNOW-HOW all along the line.

5-54

"VAPOR-VACUUM" Seal and Re-Seal

PRODUCT OF WHITE CAP COMPANY

THE NEW FOOD TECHNOLOGY BUILDING at the Davis Campus of the University of California. At far right is the pilot plant wing.

Important research underway in new Univ. of California food laboratory

Davis facilities combine pilot-plant and taste-testing for comprehensive evaluation of many kinds of foods

By
ELLY HINREINER, Ph. D.
Assistant Professor of Food Technology
University of California, Davis

When the Food Technology Department of the University of California moved from Berkeley to the Davis campus about two years ago, the staff and students moved into a new building especially designed and equipped for teaching and research on all sorts of food and processing problems.

The ground floor of the building is roughly F-shaped with approximately 35,000 square feet of space. The second floor extends over about one-third of this area. Two entire wings of the ground floor, the foot and lower bar of the 'F', are devoted to food processing and storage. The pilot plant equipment is housed in a huge (60′ x 150′), high-ceilinged room with windows all along the north side, and two sliding doors large enough to accommodate the entry of small trucks. The floor is equipped with drainage trenches flowing directly into the first phases of a sewage-disposal plant. A chlorination room permits chlorination of the water supply to any desired level.

Adjacent to the pilot plant are a similar, but smaller, processing room, a supply and storage room, and a complete control laboratory for chemical and physical analyses on raw materials and processed foods.

The pilot plant fulfills the functions both of an experimental food processing laboratory for researches involving as few as one or two cans, and of a true pilot plant capable of turning out thousands of cans of uniform quality under essentially commercial conditions. The canning, freezing, and dehydration of most important California fruits and vegetables, as well as meats and poultry, can be handled.

A summary of the canning line for cling peaches, our largest pack for these first two years, may give some idea of the equipment. This includes a continuous sorting belt under a standard light source, and a continuous size grader. Both of these can be adapted for use on virtually any other fruit or vegetable.

Three different types of cutters and pitters are available. Next is a secondary sorting belt, then cup-up and cup-down turn-overs which may be used on apricots, pears, etc., as well as peaches, and a washing and heat exchanging device which may be used in various ways—as a lye-peeler for peaches, as a scalder or blancher for tomatoes and asparagus, or as a washing and rinsing device for practically everything. The peeled halves emerge on a packaging belt where they are put into cans, after which they may be sealed by any one of three closing machines, a fully-automatic or semi-automatic atmospheric apparatus, or a fully-automatic vacuum closer. Processing is done in a continuous, rotary, agitating atmospheric-cooker, or in a retort for non-acid products.

Most of this apparatus is adapt-

(Please turn page)

Panel member judges peach samples in one of the testing booths in food-acceptance laboratory. Note black beakers used to mask color differences, pass-through panel to kitchen, and the individual drinking fountain.

WILL YOUR CARTONS PASS THIS RIGID SCUFF TEST?

Rub! Rrrubb!! Rrrrubbb!!! Printed surfaces of Ball Shipping Cases must survive this severe Abrasion Test to assure attractive appearance at the point of sale.

BALL SHIPPING CARTONS CAN TAKE IT!

Ordeals like this "scuff test" in our Packaging Research Laboratory prove the ruggedness of Ball Shipping Cartons. Every case must be able to withstand hard usage and keep neat looking *outside*, while protecting the Ball Glass Containers *inside*.

Such research also helps us to avoid wasteful "over-packaging." We use no more weight or strength than needed for ample safety. Since shipping cases often represent 25% of all glass container costs, you can save plenty by calling Ball . . . first of all!

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LET US SEND YOU our new brochure, "The Door to Better Packaging." It contains interesting details of the many tests used to maintain carton quality and economy. Address Ball Brothers Co., Dept. FP5, Muncie, Ind.

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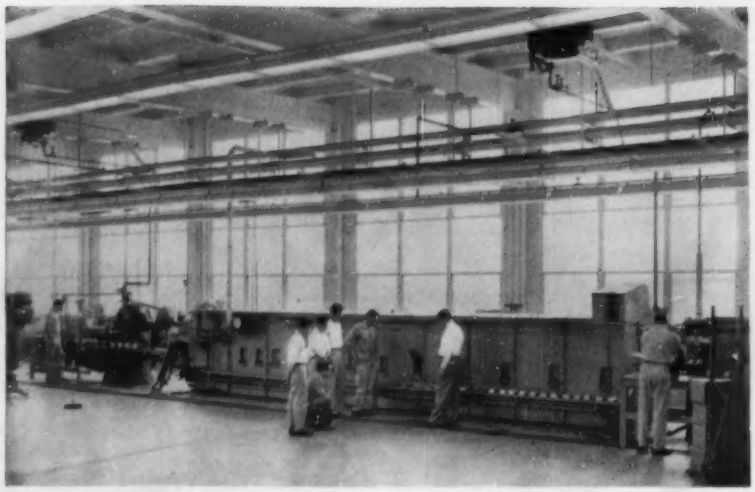
able to many other crops, and may be employed in preparing these foods for freezing or dehydration as well as canning. In addition there is a dicer for fruits and vegetables such as carrots and potatoes, a special corer and peeler for pears, and a pulper and finisher for juice and puree preparation. A squeezing apparatus of the expanding-screw type will be installed soon. A vacuum pan equipped to produce moderate, heavy, and extremely heavy concentrates and with provisions for essence recovery is a recent acquisition, as is a lyophilizer for freeze-drying of meats, fruits, and vegetables. The latter, which can handle chunks of meat two inches thick and a few square feet in area, dehydrates foods with a minimum of the chemical changes usually resulting from heat and oxidation. Lyophilization is the process used to dehydrate human blood plasma, and in the production of many sensitive pharmaceuticals. An ordinary, large wooden dehydrator is available also.

Adequate refrigeration

Separated from these facilities by a covered outdoor passageway is the refrigeration plant, designed for experimental low-temperature work. The unit consists of 11 separate rooms opening onto a central corridor. Along the first half of the corridor are six rooms (each 10′ x 21′) for storage and ripening, pre-cooling, and packaging. These operate at temperatures of 25° F. and above, with relative humidities individually controllable anywhere from 25 to 90 percent. Each room can chill up to 5,000 pounds of material brought in at field temperature per day.

Off the second half of the corridor, separated from the first part by an insulated door, are five more rooms operating at temperatures down to −40° F. The largest of these (20½′ x 26′) is used mainly for storage and has a modulating control designed to maintain a temperature of 0° F. ± 1° with an extremely low differential between the room and the refrigerant to prevent dehydration of the stored foods. The other four rooms (10′ x 20′) operate at 15-30°, 0-20°, −15°, and down to −40° F. and can be used for either freezing or storage. The coldest room has a blast freezer capable of freezing 250 pounds of food per hour in small packages. Relative humidity in all of these rooms also can be controlled over a range 30 to 90 percent.

On the first floor also are a class room and two large student laboratories for experimental work in



Sherman Leonard (second from right), associate specialist in the Food Technology Department, explains the operation of pilot-plant equipment to food technology students at Davis.

courses concerned with the chemistry and microbiology of foods. Across the hall from these labs are a store room for laboratory supplies, and a service room containing such items as hoods, steam baths, vacuum ovens, muffle furnace, and other special equipment inconvenient to use in the larger labs. The central section of the first floor has the main department office and several of the staff members' offices, the department library, and three laboratories for research on food microbiology. Close to the latter are four insulated rooms with temperature controls operated at 68 to 170° F. used as incubation rooms by the microbiologists, and for accelerated storage studies. A tiled inoculation room, which can be swept free of air-borne spores by means of a fine spray from nozzles in the ceiling, and a dark room for photographic work complete this section.

In addition to several more offices for staff members, the second floor holds laboratories for histological, chemical, and biochemical research, including food texture problems, enzyme research, and questions relating to oxidation of foods, food flavors and pigments, and dehydration of foods.

New acceptance laboratory

One of the most interesting of the research facilities here is the food acceptance laboratory, designed for the organoleptic examination and evaluation (that is, the judging of taste, texture, appearance, etc. by sensory organs, as opposed to chemical and physical analysis) of foods. This relatively new field of product apprasial by sensory means, using unbiased, trained panels, is becoming increasingly important. Not only is this method frequently more sensitive than chemical or physical analyses for a specific property, but more important, it can simultaneously evaluate and integrate the effect of myriads of separate factors, many of which could not be measured in any other way. The organoleptic properties of a food, rather than its chemical analysis or even its nutritional value, are, after all, most effective in determining its acceptance by consumers.

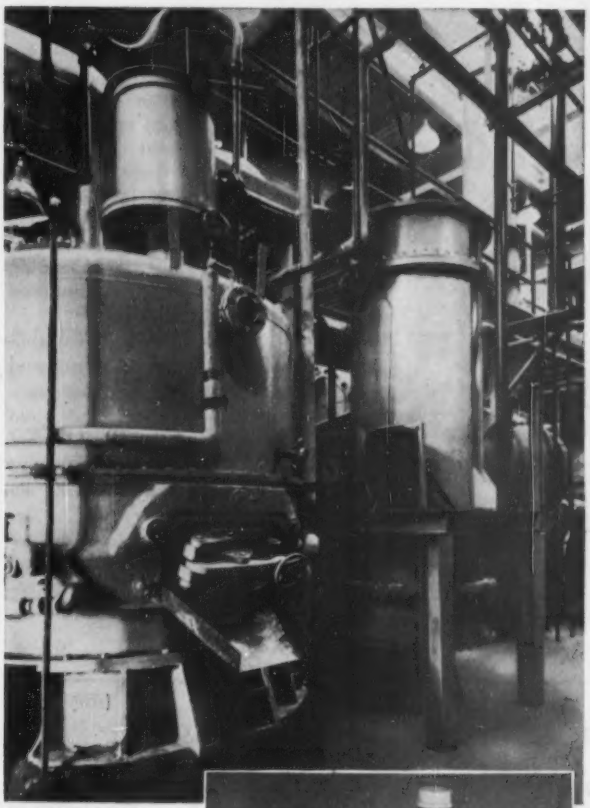
The physical provisions for this work consist of a large kitchen for the preparation of samples, a small, narrow tasting rom partitioned into five individual booths, and a large "dining room" which can accommodate up to 40 or 50 people, and which is occasionally used for testing by large panels, or for examining a product under conditions simulating a typical "mealtime" situation. It is also used very frequently for department seminars, meetings, and informal classes.

Air-conditioned thru-out

Both the small and the large tasting rooms are air-conditioned to keep them odor-free and at an even temperature. Each booth in the small room is equipped with a chair and counter, an individual drinking fountain for rinsing the mouth between samples, and individual lights which may be varied by the use of filters if it is desirable to mask the color of samples. Between each booth and the kitchen is a sliding panel through which the foods may be passed in response to an electric signal from the taster.

(Continued on page 38)

Takes the WAVER OUT of spice flavor...



*Patented and Patents Pending

Laboratory Control Assures Predictable Flavor Quality in

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Now, you can improve the taste of your products with the smooth, mellow blend of **controlled** spice flavors in SOLUBLIZED SEASONINGS. Griffith chemists maintain a new high standard of potency, purity and uniformity in each extractive—by an exclusive extraction process* developed by Griffith research.

With each spice extractive always of uniform quality, blending is a laboratory science that assures flavor control for users of SOLUBLIZED SEASONINGS. That's a big sales advantage worth looking into—today.

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Another triumph of Griffith research—devoted solely to pioneering better food processing

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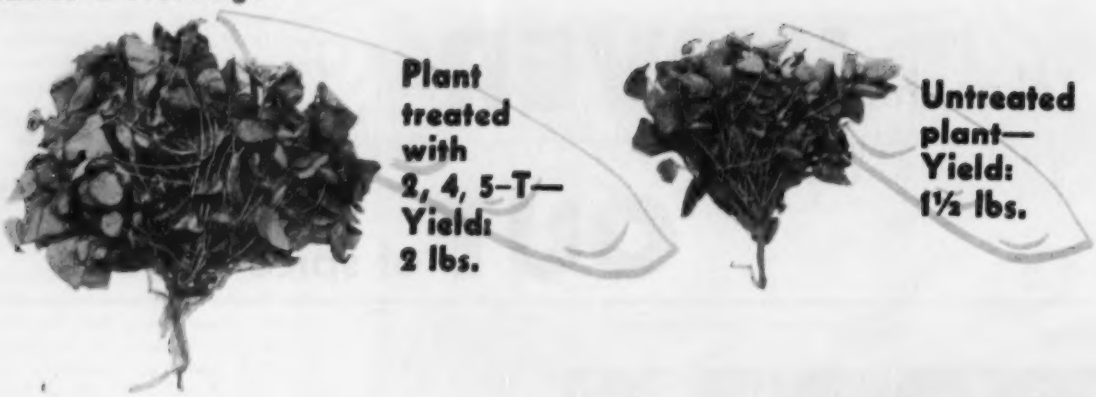
Canner's Acreage



Making LIMAS live longer, yield more

LONGER, MORE PRODUCTIVE LIFE for the lima bean may come from one of our deadliest weed killers, 2,4,5-T (2,4,5-trichlorophenoxyacetic acid), according to the Agricultural Research Service of the U. S. Department of Agriculture.

At concentrations of 1,000 to 2,000 ppm, this 2,4-D relative stops woody brush. Experimentally, at 20 to 40 ppm, it acts as a ripening spray for peaches and apples. Now, in exploratory research over several seasons at the Plant Industry Station, Beltsville, Md., 2,4,5-T has been tried on Fordhook 242 bush limas. The compound was used at only one to three ppm (at this rate, an acre could be treated with a quantity of chemical roughly equal to a single Fordhook bean). Such treatments delayed maturity about a month and raised bean yields as much as a third above normal.

Growers naturally are interested in heavy production. Although earliness is a common objective, lateness may be profitable if it's accompanied by a marked increase in yield.

P. C. Marth, physiologist, and R. E. Wester, associate horticulturist, both of the Beltsville agricultural research center, sprayed Fordhook limas with 2,4,5-T when the first blooms appeared. That treatment was repeated a week later. The plants dropped their flowers and made little additional growth for 20 to 30 days or even longer. Then came vigorous growth, resulting in bushy plants two or three times normal size. When frost didn't interfere, the sprayed beans produced from 18 to 35 percent more fruit than plants that were left untreated.

Removing the first flowers by hand increased yields by about the same amount. Apparently, deflowering allows the plant to build up its food-making capacity before starting to fruit. Unlike the chemical treatment, however, hand-thinning didn't interfere with growth. The plants developed naturally to regular size. This suggests that 2,4,5-T has a stimulating power on growth, aside from the effect of deflowering.

Liquid fertilizer, which included boron and other minor elements, was added to the spray on some pilots. This gave no significant yield increase if the plants were well fed with ordinary fertilizer. At three ppm, however, 2,4,5-T stunted plants more drastically when the spray contained some liquid fertilizer. This seems to tie in with the previous USDA finding that boron promotes absorption and translocation of 2,4-D.

Several chemicals have shown ability to delay maturity of beans and other plants. But none of these compounds stimulates growth and yield as 2,4,5-T does. It hasn't been tested on enough varieties and kinds of crops to permit generalization about its action.

Researchers have a lot to do before they can recommend 2,4,5-T to bean growers. But the method looks promising, and a number of states plan field trials for 1954.

Pickle worm "takes the count" in Missouri

C. R. CUNNINGHAM
V. N. LAMBETH
WILBUR ENNS
of the
University of Missouri

DURING THE LAST 20 YEARS the production of pickling cucumbers in Missouri has been more or less a game of "fox and goose." A new area would open up just about the time it would get going the pickle worm would catch up with the deal and the end was just a matter of time. Then a new venture would start in another area of the state only to suffer the same fate.

The main reason for this unsettled condition was that until about 1946 there were no insecticides that would effectively control this cucumber insect. Cryolite sprays and dusts were not sufficiently effective.

With the introduction of methoxychlor the "tide of the battle" began to shift. From 1948 to 1950 acreage increased rapidly in the Springfield area. Growers began to follow the county agents' and brining station representatives' recommendations which were based on the research work of the college of agriculture of the University of Missouri. The recommended program consists of two pounds of 50-percent wettable methoxychlor, one pound of 25-percent wettable lindane, and two pounds of zineb in 100 gallons of water. The mixture is applied under pressure at approximately 10-day intervals, depending on the weather, for both insect and disease control.

In this particular situation, methoxychlor seemed to be the material

(Continued on page 49)

nearly one-third more

canners pay to read

Food Packer

than any other

magazine serving

the canning industry

MAKE THIS SIMPLE TEST!

Start driving a ten-penny nail into a 2" x 4" and you'll find that the rigid resistance of the wood makes it a fairly simple job.

But . . . just try to drive a ten-penny nail into an unmounted tire. The "bounce" and lack of resistance will give you a good idea why Buffalo Belts with their "built-in bounce" wear longer than hard, rigid belts.

. . . and you'll always buy TOUGHER, LONGER LASTING

BUFFALO *Conveyor* BELTS

MADE OF SOLID WOVEN COTTON with our exclusive Wov-In-Wear process, Buffalo Belts are the conveyor belts with the "built-in bounce", like the tire in the demonstration above. Buffalo Belts are woven with that familiar "two-way stretch" to give them the resiliency to resist extra years of stress and strain on ANY conveying job. Because they are *woven*, Buffalo Belts offer little or no resistance to abrasive factors on your conveyor. Buffalo Belts adapt themselves to every curve and contour. In addition, these tightly woven, tough cotton belts can take the hardest kind of beating year in and year out without denting, raveling, tearing or cracking. It's the bounce in the cotton that counts! If you want longer lasting, *lower cost* belts . . . buy Buffalo!

IN ADDITION TO REGULAR WOVEN BELT, BUFFALO OFFERS 6 SPECIAL TREATMENTS TO HANDLE PARTICULAR PROBLEMS, FOR INSTANCE:

HOT GREASE

Buffalo's regular cotton belt is covered with a tough plastic overcoat to produce PLASTEX. This surface won't crack or peel and is impervious to hot grease, oils, acids, alkalies, moisture and temperatures from —20° to 200°F. Won't absorb or exude any odors and can be cleaned by ANY method including live steam.

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NEW YORK PHILADELPHIA CHICAGO DETROIT LOS ANGELES

STOKELY

(Continued from page 25)

process, the soaked and blanched beans pass over a vibrating screen which rinses them and removes excess water. Next they fall by gravity through tubes to the sixth floor inspection belts, where a final visual inspection is made before they again drop by gravity to the filling and closing lines on the fifth floor.

Women drop a piece of select pork meat into each empty can just prior to its reaching the filler. Beans and sauce are filled into the cans on high speed fillers, and the cans are sealed on the most modern closing machines at an average speed of 300 cans per minute.

Formula is secret

Amounts of ingredients used in Van Camp's pork and bean sauce is a tightly kept secret. "Many companies have tried to duplicate this sauce," says Alfred J. Stokely, assistant to the president, "but they have never been entirely successful." The company attributes much of the enduring prosperity of the product to the flavorful and savory sauce that goes into the cans with the beans, and to its degree of penetration into the center of each bean. Ingredients used in the sauce include tomato paste, salt, sugar, and spices.

Sealed cans are crated and processed in conventional retorts where temperatures are controlled automatically. Cook Chex-tags are attached to the crates before they go into the retort.

Crates are conveyed from the retort room and emptied on to unscramblers. The cans feed the six labeling lines on the lower floor. Here the cans are labeled, boxed, sealed and conveyed to the shipping department or warehouse. Much of the day's run goes direct into trucks or freight cars. Pork and beans are packed in the following sizes: No. 1, No. 300, No. 2, No. 2½ and No. 10.

A continuous flow of sample cans of pork and beans enters the modern Stokely laboratories where comprehensive tests are made on the product at least once hourly. Under the direction of L. F. Rutledge, quality control director for the Stokely company, and assistant director D. T. Sherow, pork and beans are inspected for general appearance, color, flavor, fill, and consistency. Consistency, an important factor, is the relation of beans to sauce.

Likewise, flavor is critically evaluated. "It's very important right then in the laboratory," points out Mr. Rutledge, "but we also have to take into consideration what the flavor will be in a particular lot of cans two weeks or more hence when the consumer opens the can." Nothing is left to chance. Stokely bean buyers are considered the toughest in the business, and on some occasions, entire carloads have been rejected because the quality control department wouldn't permit what were considered inferior beans to be used in the plant.

Stokely plants are famous for high efficiency, and the Indianapolis operation is no exception. Manager George Reneau, a veteran of 32 years with the company, and noted for his ability to untangle troublesome production bottlenecks, gives his impressions of why the Indianapolis plant consistently rolls up phenomenal production figures day after day:

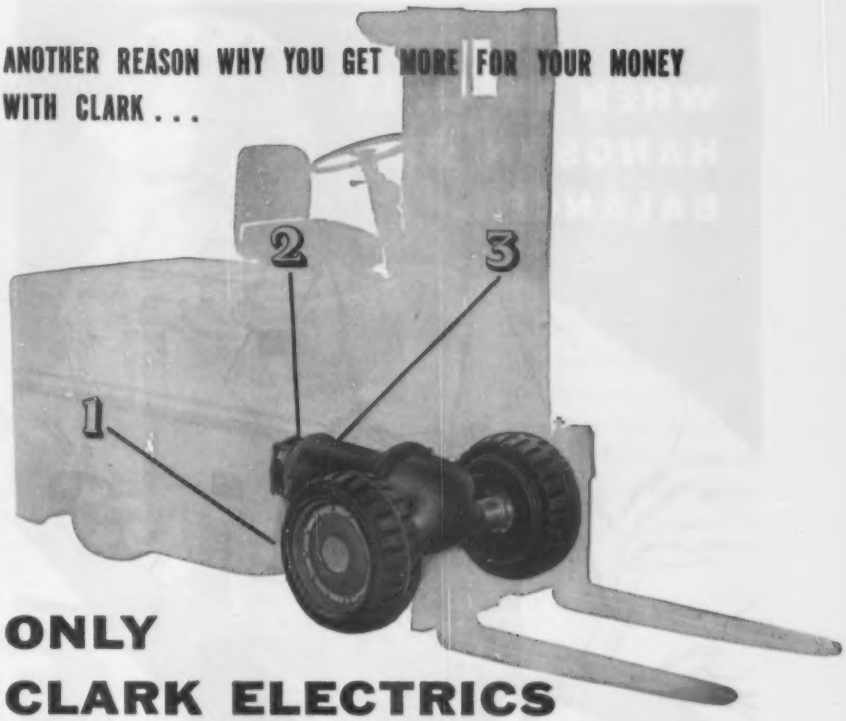
"First, we have the finest equipment. Our people, totaling 600, have the production 'know-how' and are efficient themselves. Management must surround itself with people who have the willingness and spirit to do the job right. We simply aren't satisfied with packing ordinary products. If one of our closing machines has a capacity of 300 cans per minute, we should seal 18,000 cans an hour on this machine. If we don't, something's wrong. We comb the plant until the trouble is found and then we correct it immediately."

(Editor's Note: What's the history behind Van Camp's pork and beans, which now accounts for more than a third of all pork and beans sold in the U. S.? It involves two "old-line" companies that were founded in the 19th Century and eventually merged in 1933 in one of the most significant moves ever known in the food processing industry. Part II of the Stokely-Van Camp story, to be presented in the June issue, will discuss this history and some of the reasons why this well-known product is the leader in its field.)

Burt Co. announces automatic food filler

A new automatic food filler with a micrometer adjustment that can control quantity of fill during operation has been announced by the F. L. Burt Co., 571 Seventh St., San Francisco. The machine fills 10 to 30 containers per minute, and is adjustable from one gallon to eight ounces.

ANOTHER REASON WHY YOU GET MORE FOR YOUR MONEY WITH CLARK . . .



ONLY CLARK ELECTRICS GIVE YOU THREE independent braking systems

1 Hydraulic service brakes on the drive wheels: by incorporating the internal expanding double-shoe design with large braking surface, positive control of the truck at all times is assured for even the severest service requirement.

2 "Dead-man" brake on the armature shaft: this positive acting brake takes hold automatically the instant that the driver leaves the truck—disconnects the power, returns all controls to neutral, assures that the truck will *remain* stationary.

3 Dynamic braking by reversing current through the drive motor: this braking method permits smooth deceleration, with no grabbing; but positive automatic control eliminates all danger of damage to electrical motors and controls.

This three-way braking system is another exclusive feature of Clark electric fork trucks—the safest electric trucks on the market. It's another good reason for talking to your local CLARK dealer (see the Yellow Pages of your phone book) when you're in the market for electric fork trucks.

And remember: Only Clark has no axe to grind for any particular type of truck. We produce them all: gas, electric, diesel and L.P.G. fork trucks; POWRWORKER hand trucks; ROSS Carriers. For unbiased experienced counsel on all materials handling problems, see your Clark dealer today.

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Industrial Truck Division
CLARK EQUIPMENT COMPANY
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Produce more...handle more...at lower cost...with an efficient conveyor system that meets your exact needs. BUSCHMAN builds quality conveyors of all types...portable wheel and roller, live roller, horizontal powered-belt, overhead and table-cable, floor-to-floor, apron and slat as well as special conveyors.

BUSCHMAN engineers will assist in surveying your plant and will recommend the most economical and efficient conveyor for each application...receiving, production, packaging, warehousing and shipping...or they can design a system that will streamline your entire materials handling operation.

TROJAN portable, adjustable powered-belt conveyor can be positioned anywhere by one man. To speed loading, unloading, stacking or boosting operations, the Buschman TROJAN is your best buy.

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Representatives in Principal Cities • Canadian Licensed Manufacturer: J. A. McKechnie, Ltd., Toronto

NEW LABORATORY

(Continued from page 32)

The kitchen is well-equipped for all of the usual methods of food preparation in small to moderate quantities; a blanching cabinet, deep-fat fryer, set of steam-jacketed kettles, special baking oven with revolving shelves, mobile steam table, and deep freeze are available in addition to the more usual items such as range and refrigerator.

Important research on food problems in a variety of areas is underway in the Food Technology Department at Davis. Since it would be impossible to review all of these projects in one article, it seems desirable to dwell on one with which the author is most familiar, i.e., the determination of food acceptance and the factors affecting it.

The facilities and personnel of both the pilot plant and the food acceptance laboratory are closely integrated in the attack on this problem. The pilot plant undertakes the canning or freezing of the foods to be subjected to organoleptic evaluation. Usually this must be done under carefully controlled conditions and to rigid specifications. The pilot plant personnel must often begin their supervision at the harvest stage, or even before, and carry through the transportation of the crop to the plant, storage and ripening schedule, and chemical and physical analyses of the raw material. After canning, similar analyses are made on the processed food. It is the job of the acceptance laboratory to evaluate the foods organoleptically, using appropriate panels and experimental designs.

Many foods tested

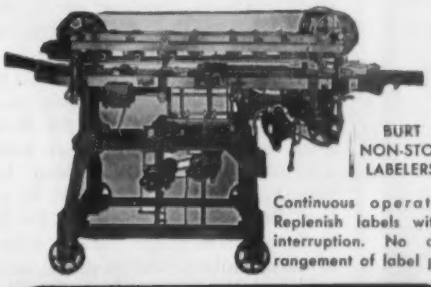
A remarkable number and variety of foods have been tested during the two years that these facilities have been in operation. Most of the problems are concerned with determining whether a given treatment or variable—anything from method of irrigation, or variety of plant, to time of harvest, or concentration of syrup used in canning—has any effect on the flavor, texture, or appearance of the food, and if so, whether the effect is beneficial or harmful.

In a typical experiment the treated or "control" sample in a "tri- carrots grown in soil treated with a pesticide) is compared with an un- "treated" sample (say, for example, angular" taste test, by a panel of

(Continued on page 48)

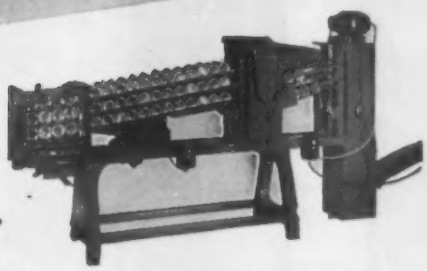
YOU NEEDN'T BE
SUPERSONIC . . .

. . . TO WIN YOUR RACE AGAINST TIME!



BURT NON-STOP LABELERS

Continuous operation. Replenish labels without interruption. No disarrangement of label pack.



BURT HIGH SPEED CASE PACKERS Two layers with each stroke plus safe, automatic case dumping.

Burt is your best bet for simpler, faster, trouble-free packing and labeling. You're bound to boost your production when you install Burt efficiency-designed packers and labelers.

BURT

PACKERS & LABELERS
beat fleeting time

BURT MACHINE COMPANY • 401 E. Oliver St., Baltimore 2, Md.

HIGH SPEED SLICING of

THE URSCHEL MODEL "O" TRANSVERSE SLICER:

- results in greater cutting yields.
- is ruggedly constructed for years of dependable service with low maintenance.
- cuts thicknesses from 1/32" to 1-1/3".
- occupies only 2' x 9' 3-1/4" floor space.

Produces CLEAN, UNIFORM CROSSCUTS With No Product Crushing!

Consult Urschel now for the experienced answers to your every cutting problem. Write:

PRECISION HIGH-SPEED FOOD CUTTING EQUIPMENT

URSCHEL LABORATORIES INC.
VALPARAISO, INDIANA

manufacturers of precision, high speed cutting equipment for delicate food products

Freezing News

Promotion • Selling • Research

Ballard frozen oysters packed in cans

The introduction of Ballard Frozen fresh oysters in vacuum pack cans manufactured by American Can Co. adds another product to the rapidly growing market for frozen food in metal containers.

The 12-ounce cans are lithographed in five colors and each can is stamped on lid with grade of oyster packed.

Tranter catalog on truck refrigeration

Nine design "extras" are stressed in a new illustrated catalog issued by Tranter Manufacturing, Inc., Lansing 4, Mich. Emphasis is on features of "Hold-Over" plates for truck refrigeration. Typical plate hook-ups and plate arrangements are also featured.

The catalog, No. 54, is available from the company.

Birds Eye executive predicts 1960 market for frozen foods

Frozen foods will capture 15 percent of the consumer's food dollar by 1960, according to a prediction by George L. Mentley, general manager of the Birds Eye Division, General Foods Corp. Speaking before a recent meeting of the Central States Frozen Food Association in Chicago, Mr. Mentley pointed out that much "spadework" is necessary in the way of improving frozen food handling and cutting down out-of-stock, aggressive advertising and promotion programs, as well as eye-appealing packaging campaigns.

Citing an estimate of 7 million home-freezers to be installed by the end of 1954, Mr. Mentley criticized retailers for a tendency to neglect frozen commodities in favor of fresh and canned merchandise.

A six-point program for handling of frozen foods from warehouse to shipping points was outlined at the meeting by Claude Todd, Stilwell Frozen Foods, Inc., Stilwell, Okla. The program includes stacking items on floor pallets and using separation strips; leaving space between the bulkhead opening and the load in loading; ordering cars sufficiently in advance to ensure pre-cooling them; keeping temperatures in cars to 16° F. before loading, with canvas over doors to maintain temperature; re-icing cars before departure, and keeping a complete record of consignment.

Trade Winds Co. launches frozen shrimp promotion

The Trade Winds Co., packers of "Trade Winds" and "Pan-Redi" fresh frozen breaded fantail shrimp, has announced a heavy program of localized advertising to support its recent introduction in many large eastern cities.

Inaugurated during the Lenten season, the promotion is being carried on through newspapers, radio and television, as well as several national women's magazines and trade publications.

(Continued from page 18)

farmers from Federal regimentation. That was the Benson contribution to the Great Crusade. There's no doubt the Secretary meant it, most sincerely. But there were those surpluses; and to keep from adding to the surplus extravaganza the USDA turned to acreage limitations. Then this spring's planting plans disclosed a big shift; the acreage that couldn't be planted to controlled crops, such as cotton and wheat, were going to the uncontrolled crops, such as soybeans and barley. Then what to do with THOSE surpluses!

The Secretary can't screw down the controls any tighter on this year's farm output; but he aims to throw some inside curves in next year's agricultural series. Something like this: Farmers would be told to cut back the acreage devoted to the big stuff, the major crops that are subject to acreage allotments; all strictly in accord with Washington formulas. Then they must agree not to plant any minor price-supported crop on the land thus rescued. Should they make such plantings, they'd lose their price supports on the major crops; and if the USDA got really annoyed, they might lose the supports on the minor crops, too.

So what are they to do with the rescued land? The first suggestion, believe it or not, is to let the acres stand idle; the principle of the abandoned farm, except that the farm owner would have to pay tax on his idle land. The second suggestion, which depends on persuading Congress to come across with the money, is that the USDA will spend $55 million in soil building; terracing, dam building, and planting soil-saving grasses. Fifty-five millions would be a lot of millions in our life; but if we have our statistics on straight it would be something less than 10 bucks per farm in Uncle's wide domain; which wouldn't go so far in doctoring up the rescued acres. Any way you take it, that freeing of farmers from Federal fetters seems to have missed connections at the junction.

This is where the vegetable marketing orders hitch on. The USDA fears that a lot of the rescued acres might get planted to canning crops; is quite sure this would happen. Doubtless that's why the Department thinks there should be a law. A few mordacious souls in these parts, with nothing to go on except suspicious minds, wonder if the Department wrote S. 3052. In any event, after looking carefully before and after, the NCA still doesn't want any part of Section 401 (b).

JUST RELEASED!

Robins NEW #999 CATALOG

This new catalog contains data, specifications and illustrations of the latest models of food processing equipment, handling machinery and supplies. It presents to you the ultimate in modern, time-saving, quality equipment offered by this dependable 99 year old firm.

See what Robins has to offer before you buy. Check your catalog number. Do you have the new #999 Robins Catalog? If not—see your Robins representative or wire, write or phone direct for your copy.

THE ROBINS LINE INCLUDES EQUIPMENT FOR PROCESSING

Apples
and apple products
Asparagus • Beets
Corn • Dried Beans
Lima Beans
Marmalades
Olives • Onions
Peaches • Peas
Peppers • Pickles
Potatoes—
white and sweet
Pumpkin • Relishes
Sauerkraut • Shrimp
Spinach • Strawberries
String Beans • Tomatoes

Wherever you look...
You'll see ROBINS!

A.K.Robins AND COMPANY, INC.

Manufacturers of Food Processing Machinery Since 1855

713-729 E. Lombard St. • Baltimore 2, Md.

SPEAS

APPLE PRODUCTS
the Standard of Quality
for sixty years

NUTRL-JEL
for preserves, jams, jellies, marmalades

CONFECTO-JEL
for jellied candies

Powdered *Apple* Pectin for PRESERVERS

CONCENTRATED APPLE JUICE

Plants in Apple Regions From the Atlantic to the Pacific

SPEAS COMPANY, General Offices, Kansas City 1, Missouri

Production Lines

New methods • New research

Soft drink can, new to packaging industry, is highlight of National Can Corp. exhibit

A soft drink can, a recent and important development in the packaging industry, was the highlight of the National Can Corp. exhibit at the National Packaging Exposition and Conference held in Atlantic City last month. Pictured here discussing the new can, are John Morrison, vice president of National Can, and E. F. Woelper, southeastern district sales manager.

In an interview at the exposition, Robert S. Solinsky, president of the company, predicted that the number of cans used to package soft drinks is likely to exceed the number now used in the brewery industry—more than six billion cans annually.

Shell Chemical's Ionol ready for food use

Shell Chemical Corp., 50 W. 50th St., New York 20, has announced that Ionol-CP is now available for use as an antioxidant in all food and drug products packed under the jurisdiction of the Food and Drug Administration. Ionol has proven equally effective in preventing rancidification of fats and shortenings, in protecting certain vitamins from destruction by air, and in stabilizing both rubber and plastic compositions used in food handling equipment.

Continental Can issues data on packaging division

A new fact sheet entitled "Shellmar-Betner Flexible Packaging Division," which contains background data on this division, is available from the Continental Can Co., Inc., 100 E. 42nd St., New York 17. This is the sixth in a series of fact sheets.

USDA issues standards for tomato sauce, cucumbers

Grade standards, effective May 10, 1954, have been issued for concentrated, spiced tomato puree by the U. S. Department of Agriculture. The standards provide that the product be concentrated so that the refractive index of the filtrate is not less than 1.3461 nor more than 1.3541 at 20° C. Quality levels are evaluated by judging the product on its color, consistency, degree of freedom from defects, and its finish and flavor.

The USDA also issued revised standards for grades of cucumber pickles, providing requirements for density of packing media on various styles and types of sweet pickles in terms of degrees Baume or Brix. Requirements are provided also for degrees Salometer in sour whole and cut mixed pickles, limiting the maximum and minimum amounts of salt in the packing medium. Similar requirements are provided for acidity.

Drained weight data developed since the grade standards were first issued, in 1938, have been considered in revising the recommended minimum drained weights. Provisions have been made for averaging the drained weights of individual containers, and more flexibility provided with respect to the drained weight of small containers.

Provisions are also made for U. S. Grade B or U. S. Extra Standard cucumber pickles, in addition to the grades designated as U. S. Grade A or U. S. Fancy and Substandard. The grade of the product is determined by evaluating factors of color, uniformity of size, defects, texture, and flavor.

D&O certified colors take new package

D&O Certified Colors have just received a new container and will now be supplied in a specially designed, lithographed can. Both certified primary and secondary colors are available under the new D&O label, as well as special technical colors, at the manufacturer's request, and contracts are offered to quantity users. For details write to Dodge & Olcott, Inc., 180 Varick St., New York 14.

"Dio-Mix" carries claim for uniformity in cleaners

Development of an entirely new process of manufacture for sanitation chemicals has been announced by the Diversey Corp., 1820 Roscoe St., Chicago 13. The new method, called "Dio-Mix," blends ingredients to obtain maximum uniformity.

Paste detergent for food processing

A new paste detergent for pea cleaning is offered by Key Equipment Co., 217 E. Broadway, Milton-Freewater, Ore. The new flotation agent was developed exclusively for Key by American Alcolac Corp., Baltimore.

Called Key Froth Foaming Agent SIPON LS Special, the detergent aids in removal of foreign matter from peas, corn, lima beans and other vegetables.

Report on corn and tomatoes

A bulletin titled "1953 Vegetable Variety Studies for Processing and Quality Evaluations" reports on the study of canned and frozen whole kernel sweet corn and canned tomatoes and tomato juice. The bulletin, Mimeograph Series No. 54, is available on request from the Dept. of Horticulture, Ohio Agricultural Experiment Station, Wooster, Ohio.

CUT SEASONING COSTS

20% to 40%

MAGNA spice concentrols — scientific formulations of spice essential oils and oleoresins . . . the most concentrated flavoring materials available.

advantages:

- 100% pure, natural products obtained by distillation or extraction from *actual* leaves, herbs, roots, buds or berries.
- Contain no diluents or inert materials of any kind.
- More economical because they are more concentrated, yet readily diluted in your own plant.

Write for your copy of "Questions and Answers" for the food processor. Learn how the development of Magna Spice Concentrols has modernized the seasoning of food products . . . and cut seasoning costs.

MAGNUS, MABEE & REYNARD, INC.

Since 1895 • One of the world's greatest suppliers of essential oils

16 Desbrosses Street, New York 13, N. Y. • 221 North La Salle Street, Chicago 1, Ill.

World's Largest Canners, Packers

CUT BOX COSTS

with

CELLU-SAN®

The first and only NON-TOXIC wood preservative developed expressly for the food industry.

The field boxes (also hampers, pallets and viner canvas) you buy this year can have a far different life history from those you now own. And here's why, as proven by the world's foremost canners and packers.*

Odorless, tasteless CELLU-SAN performs *two* major functions that save you money year after year.

1. As a fungicide, it provides positive protection against mold, mildew and rot. Your equipment will remain not only stronger, but cleaner, more sanitary. Crops are safe from contamination.

2. As a water repellent, it controls the moisture content in wood — prevents excessive warping and swelling. Nail-holding power is improved. (174% in documented tests) No longer will your boxes dry out, become brittle and break so easily. CELLU-SAN keeps wood fibres strong, resilient and "alive".

CELLU-SAN treated boxes will send your repair and replacement costs *down*. It provides many types of protection for only pennies per box. Apply it yourself with a simple, 3-second, in and out dip. Or, specify CELLU-SAN when ordering new harvesting equipment.

** Names on request*

CELLU-SAN treatment represents potential savings of thousands of dollars. All we need is your request and we'll send illustrated, factual information. Write today to CELLU-SAN Division, Darworth Inc., Simsbury, Conn.

Western Sales Office P.O. Box 1422, Palo Alto, California.

What's new?

Supplies • Equipment • Trade Literature

Kromer broad fan sprayer

An economy type broad fan (boomless) sprayer is now available from the O. W. Kromer Co., 1120 Emerson Ave. N., Minneapolis 11, Minn. This sprayer clamps to the tractor draw bar or barrel rack and is supplied with power take-off, roller pump, pressure regulator, pressure gauge, suction strainer, chemical resistant hose and adjustable brackets.

Catalytic exhaust available for factory installation

The OCM catalytic exhaust is now available for factory installation on gasoline-powered lift trucks and tractors manufactured by Clark Equipment Co., Battle Creek, Mich. When factory installed, it is put on the truck in place of the regular muffler. Space requirements for installation of a unit are approximately the same as for the regular muffler which it replaces.

Further details are available from Oxy-Catalyst, Inc., Wayne, Pa.

CRCO machines announced

A new straightener for empty cans which will remove jams and dents in flanges and restore them to their original usefulness has been developed by the Chisholm-Ryder Co., Inc., Niagara Falls, N. Y.

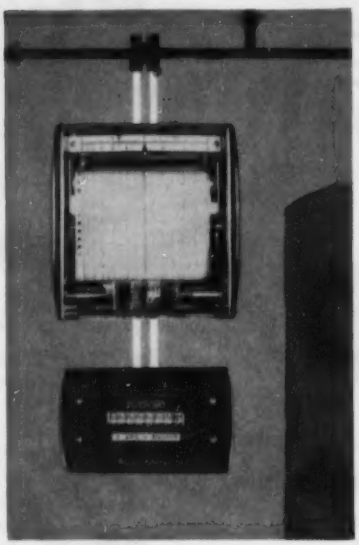
The company also has introduced a new pea and dry bean filler, a labeler feeder for cylindrical containers, and a new use for its automatic unscrambler—to feed a labeling line from cases.

Literature

Technical report TI 27-A-16b of The Foxboro Co., Foxboro, Mass. Covers details of measuring viscosity under industrial conditions using rotational viscometer; diagram illustrations.

Bulletin F 5633-1 of Wheelco Instruments Div., Barber-Colman Co., Rockford, Ill. Describes complete line of company's instruments for industrial process control application.

Bulletin 53-56 of Chain Belt Co., Milwaukee 1. Illustrated presentation of user benefits of Rex Z-Metal Chain.



Foxboro Co. announces two new developments

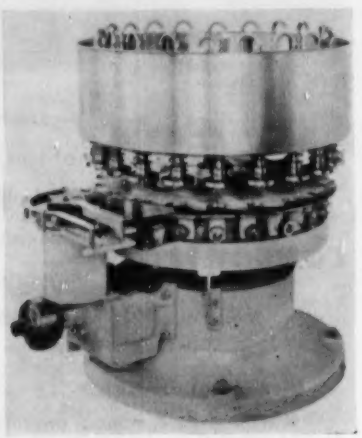
A new receiver-integrator for graphic panels has just been announced by the Foxboro Co., Foxboro, Mass., for use with the company's line of compact Consotrol instruments. A pneumatic-electric instrument, the new Type 224 receiver-integrator computes an accurate and continuous total of any process flow and operates a small counter located in the graphic display.

The integrator consists of two small, self-contained units: a remote counter and a flow receiver. The unit is available for uniform or square root scales to totalize minute, hourly or daily rates.

Also developed by Foxboro is a new series of electrolytic conductivity cells for use with Dynalog conductivity instruments. The cells are designed for high and low conductivity measurements, detecting the concentration of acids, bases and salts in solution. Specifications, including cell materials, connections and ratings, are detailed in technical report TI 27-H-60a, copies of which are available from the company.

Grabill 90° power curve improves conveyor systems

Shown here is the new Grabill 90° power curve for increasing packing efficiency of chain, belt or gravity conveyors. The unit works right or left hand and is reversible by reversing the motor leads. Available with or without motor drive, the power curve has a rigid, welded construction and has ball bearings throughout. For further details, write the John Bean Division, Food Machinery and Chemical Corp., Lansing, Mich.



Liquid filler now made by Turbo

Turbo Machine Co., Lansdale, Pa., is now the exclusive manufacturer and distributor of the Dura-Mil liquid filler, which features a patented cone-shaped bowl for easy cleaning and greater efficiency. The 20-station model has filling speeds up to 300 cans per minute and handles can diameters from 202 to 404 and can heights to 700. The 12-station model, handling can diameters from 404 to 610 and can heights to 712, fills up to 100 cans per minute.

The filler formerly was manufactured by Central Machine Works, Inc., of Philadelphia.

Diamond Crystal Alberger Salt is

America's largest-selling High-Grade* salt

because...

the exclusive Diamond Crystal Alberger System produces:

Purity—99.95% Sodium Chloride.

Uniformity—maximum purity variation ±0.01%.

—screened to a standard for each food product.

Cleanliness—lowest insolubles of any commercial grade of salt.

Low heavy metals—averages less than 1.5 part per million of pro-oxidants copper or iron.

**The premium grade salt used by food processors.*

FOOD TECHNOLOGIST AT YOUR SERVICE

For free consultation on choice and application of the right salt for your food products—call, wire or write:

Technical Service Department
Diamond Crystal Salt Co.
St. Clair, Michigan
Phone—296

INSECT PESTS

Outside **WITH DIVERSEY**

Divo-kill

Wipe out Drosophila and Flies in fields, on trucks, at docks.

200 to 400 times more kill power than diluted water type insecticides. Completely safe to use. No odor. Spray directly on fruits or vegetables in the field, on trucks, or at docks.

Inside **WITH DIVERSEY**

Diverside

Fast Knockdown, Greater Kill Power, Perfect Safety

Pyrethrum plus newly developed insecticidal chemicals give Diverside greater kill power per dollar. Absolutely *safe to use. Non-toxic. Contains no DDT.* And, what's more, DIVERSEY provides you with a *complete system* tailored to your needs. Call your DIVERSEY "D-MAN" for a free demonstration today!

THE DIVERSEY CORPORATION

1820 Roscoe St., Chicago 13, Ill.

In Canada: The Diversey Corp. (Canada) Ltd., Port Credit, Ont.

The Market Place

News of Promotion & Selling

Grapette sets up syrup concentrate line in distinctive "flavor-color" containers

Grapette Products Co. of Camden, Ark., has introduced a new six-ounce can for packaging eight concentrated fruit flavored syrups. The cans, by American Can Co., are distinctively lithographed in colors identifying each flavor. The "flavor-color" association is carried out also in shipping cartons, to make warehouse selection quick and accurate.

No refrigeration is required for the concentrates, and one can of syrup makes 1½ quarts of beverage. The "family" of canned syrups supplements Grapette's present line.

Kraft containers adopt Early American motif

Design of the Kraft Food Co.'s five-ounce container for pasteurized process cheese spreads, "Swankyswigs," will be switched to a new pattern called "Early American Antique." The new "Swank" design, enlivened by attractive and typical early American household objects, was selected as a favorite in keeping with current public taste by a women's consumer panel. All six decorations are executed in red, brown, blue, green, orange and black. Harmonizing caps are by White Cap Co.

The new "Swanks" will be introduced on the "Kraft Television Theatre" beginning June 2. Point-of-sale material will include banners, dairy case streamers, and price cards.

Pillsbury and Realemon join forces in coupon drive

A spectacular combination program kicked off April 1 when Pillsbury's Best Flour and Realemon (lemon juice in bottles and frozen lemonade) joined up in a 13 million coupon campaign. Basis for the team-up was a prize winning lemon cheese pie recipe awarded in the program's "Grand National Bake-Off." Thirteen million bags of flour have been carrying as many coupons, each worth 10 cents on the purchase of Realemon juice in bottles, Realime, Realemon frozen lemonade, and Realime frozen limeade.

Advertising featuring the coupon tie-up has been scheduled for national consumer magazines, radio and TV.

Real Gold products featured in campaign

The Real Gold Co., Redlands, Calif., has launched an intensive newspaper advertising campaign on its orange base and new grape base. The products are being featured on the local level, as well as in national magazines, farm papers and trade journals.

In-store demonstrations and colorful point-of-sale material also are being used.

Tomatoes add color to Morton Salt campaign

The decorative value of tomatoes has been put to use in Morton Salt Co.'s current advertising campaign. To give variety to the illustration of this familiar vegetable the miniature size is shown, as well as larger red and yellow types.

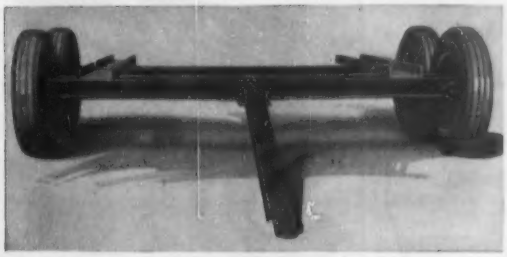
Morton says this sales message is part of doing "more in '54 than ever before" to reach potential customers. The company is promoting its message through magazines, newspapers and outdoor boards.

Mass pickle display boosts impulse buying

That a mass display of pickles can build business in an 11-day period was demonstrated recently at a Stop & Shop Market in Cambridge, Mass. The display, containing approximately 300 cases of various style pickles, resulted in a big step-up in the sales of jars of pickles.

According to a company merchandiser, "When seen, they increase the impulse to buy. This display sold more jars of pickles in a short period than we have ever moved in one store in a comparable period."

Because of the interest in the colorful display of more than 14 different pickle styles at this store, similar mass displays are planned in other of the chain's stores.



HAMACHEK
Transport
For Moving Viners

Designed for Packers finding it essential to move Viners within a growing territory without necessity of taking down and reassembling the machines.

Offers These Time-Saving Features

- With this Transport, Viners can be moved quickly and efficiently . . .
- Average Viner, by means of this Transport, can easily be mounted with aid of two men and a truck, moved to new location and set down ready for operation in less than a day . . .
- By making special mountings for elevators, feeders, and pea boxes, required moving time can be reduced still further.

Many Packers use one or more HAMACHEK Transports to move Viners–when relocating stations at start of season–for emergency Viner moving during pack –or to bring Viners into plant for off-season repairs and check-up.

Write for descriptive folder

FRANK
HAMACHEK
MACHINE COMPANY
KEWAUNEE WISCONSIN
ESTABLISHED 1880 • INCORPORATED 1924
PEA AND BEAN HULLING SPECIALISTS

Get fast, sanitary, economical food processing with new Vibro-Clean Screen

Fast, sanitary, and economical, Link-Belt Vibro-Clean Screens mean more efficient vegetable cleaning and dewatering. High-intensity vibration of stainless steel screen deck speeds operation, prevents blinding and clogging of screen cloth.

Waste water is drained quickly. Absence of corners and crevices eliminates food build-up . . . insures sanitary operation.

Learn about time-saving Vibro-Clean Screens from Folder 2435. Write for your copy today. 13.125-B

LINK-BELT

VIBRO-CLEAN SCREENS

LINK-BELT COMPANY: Executive Offices, 307 N. Michigan Ave., Chicago 1. To Serve Industry There Are Link-Belt Plants and Sales Offices in All Principal Cities. Export Office, New York 7; Canada, Scarboro (Toronto 13).

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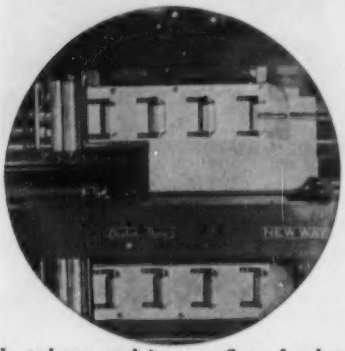
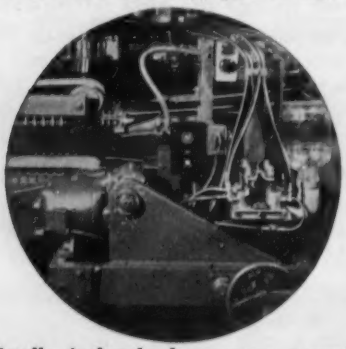
Investigate the New

GLUER-SEALER

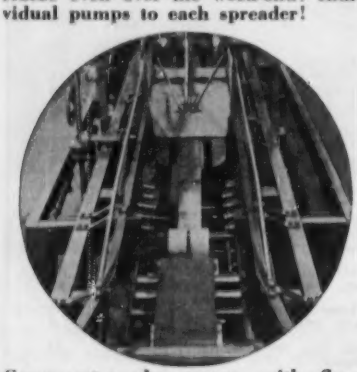
By CRCO—NEW WAY



Heated top and bottom flaps for better adhesion and 40% glue saving!



Totally inclosed glue system cannot freeze even over the week-end! Individual pumps to each spreader!



Cases enter glue course with flaps vertical preventing breakage. Cannot jam—can be cleared in operation.

Send for Special Bulletin

Chisholm-Ryder

Company, Incorporated
NIAGARA FALLS, N.Y.

THE BEST OF Everything FOR THE FOOD PROCESSOR

426

(Continued from page 38)

ten to 15 trained judges. In the triangular design three samples are served to each judge. In appearance these are identical (differences in appearance and texture, where flavor alone is to be judged, may be masked by dicing or grinding the sample, serving in black-walled containers or under colored lights, or adding food dyes), but actually each trio consists either of two treatments and a control or of two controls and a treatment in random order. It is the judge's job to decide which of the samples is the odd sample and whether it or the duplicates have received the treatment. There is of course a one-third probability that a judge will correctly select the odd sample by guess alone, so that only if the number of correct selections is significantly greater than one-third is the treatment considered to produce a flavor difference. Similarly, a statistically significant number of the judges must agree on which sample of the carrots appears to have received the treatment in order to conclude that the treatment does in fact result in an undesirable foreign flavor. Three or four sessions of the panel are usually held to provide a reasonable number of judgments (30 or 40) for statistical analysis. Other types of experimental designs and procedures such as scoring or ranking a series of samples, paired comparisons, and dilution tests are also used when they are more appropriate or convenient.

The elimination of variation in flavor (or texture, etc.) due to factors other than the treatment under study, so necessary in this sort of experiment, is no small problem. It necessitates identical conditions for the treated sample and the control throughout all the stages of growing, harvesting, processing, and preparation for tasting. The pilot plant operators must be ruthless in their selection of raw materials, rejecting anything that is not of standard maturity, or which deviates in other ways. The processing operation must be precisely standardized; even the amount of sample going into each can is weighed to within 0.1 oz., and the concentration and quantity of brine or syrup, length of cook, and cooling rate are also carefully controlled.

But the pilot plant is far more than just a service department to the food acceptance laboratory and other groups in the university. Many of the acceptance problems investigated by the taste laboratory originate in

(See next page)

TIME TESTED EQUIPMENT

Berlin Chapman

TO AID YOUR PRODUCTION!

BERLIN CHAPMAN BRINE TANKS

Latest design in brine tanks, juice tanks or pulp tanks . . . regular sizes from 100 to 2000 gallon capacity . . . special sizes made to order. Wherever metal is used, it is all alike where the metal comes in contact with the contents. Berlin Chapman Brine Tanks are electrically welded with smooth polished joints to a mirror finish.

Tell us your tank requirements and capacity needed . . . we will gladly furnish quotations.

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the pilot plant. Right now, for example, a very extensive project is underway on factors such as variety, growing location, maturity, size, pitting method, method of peeling, nature and concentration of syrup, and processing time, influencing the flavor of canned cling peaches. Often the pilot plant and its analytical laboratory is called upon to obtain chemical and physical data to correlate with the taste data. Finally, the pilot plant performs a very important function in the training of future food technologists, including a large number of foreign students who will carry back the techniques they learn here to food processing plants all over the world.

CANNERS' ACREAGE

(Continued from page 34)

that had been needed. It appears to be very effective in killing the adults, especially females seeking to lay eggs on the vines and fruits. The residual toxicity is long enough to kill the worms hatching from eggs that may have been successfully laid. There may be two, three, or more generations per year of the pickle worm. It usually over-winters in the pupal stage in rolled leaves, under surface trash, or in the ground. It takes four or five weeks to complete one generation, the first starting usually in June. Methoxychlor apparently not only controls this dreaded insect that had continually caused failure in cucumber production, but is also effective in controlling the spotted and striped cucumber beetles, the latter being carriers of the wilt organism. Lindane is mainly used as an aphicide early in the growth of the plants.

The steady increase in acreage and improved yields is probably due mostly to the effective control of insects and proper fertilization (according to soil-test results).

During the past season one brining station received nearly 25,000 bushels and reported that only three pickle worms were found. Workers at the grading machine were instructed to watch closely for pickle worm damage.

Production has started in the Birch Tree–Eminence area of Shannon County. With good cultural and insecticide practices, even under drouth conditions, cucumbers were a profitable crop. Even without irrigation, some growers, following recommendations closely, grossed $400 and $500 from each acre where many other crops were almost a total loss.

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(Continued from page 26)

make harvests from replicated plots at least three times during the season.

With tomatoes, seven to 10-day intervals during pickings are desirable and tomatoes harvested should be segregated into specific qualities prior to processing. To be specific a particular variety is most important, but secondary is the particular stage of maturity. Every food processor can take a high quality product at any one given harvest and a low quality product at another harvest for the same variety and, quite obviously, the finished product will be drastically different.

These points are emphasized because many trials around the country are what might be termed as observational trials since little specific data are given for any given stage of maturity for any particular variety to say nothing of the quality of the product after processing. Varietal trials are important and must be handled properly to be significant to the industry. Observational data are important, but these data should be supported by measured data collected over the season and then replicated another season.

In 1953 at Columbus, Ohio, 10 varieties of tomatoes were included in the trials for the processing and quality studies. Results are listed in Table I. The tomatoes were harvested at seven to 10-day intervals throughout the season, and were graded for quality according to USDA Standards for Tomatoes for Manufacture of Strained Tomato Products (1933). Table 1 gives the average grade values based on the total yield for the season for the different varieties of tomatoes.

After the tomatoes were graded they were manufactured into tomato juice by the "cold break" and "hot break" processes and canned as canned tomatoes. For the manufacture of tomato juice, Early Red, Improved Garden State, and Rutgers were the most outstanding varieties from the standpoint of retention of color and high total scores and grade in the finished product. Red Top is a paste-type tomato; however, juice made from this variety was highly acceptable. Of course, the major problem with this variety is its pear shape and small size. It is difficult to handle with roller-type conveyors.

When canning tomatoes from these varieties, Red Jacket, Improved Garden State, Ace, and Rutgers were the best varieties. They had the highest total scores in the finished product and were particularly outstanding from the standpoint of color retention, wholeness, and high drained-weight scores. The results obtained this year confirm the results obtained during the past four seasons with regards to the Rutgers variety. It is an outstanding variety and has many desirable characteristics for both canned tomatoes and tomato juice manufacture when grown under Ohio conditions. The varieties mentioned as outstanding above look promising and certainly are worthy of consideration. Some of these are already in commercial production for specific areas and no doubt will find wider acceptance in the future.

In my June article I will discuss the evaluation of sweet corn and snap beans.

References

1. 1953 Vegetable Variety Studies for Processing and Quality Evaluation. Ohio Agriculture Experiment Station. Department of Horticulture Mimeograph Series No. 54, February 1954.

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New York export firm seeks food lines. Either as general exporter or as exclusive. Write Box 52, Food Packer.

SALT PACKAGE

(Continued from page 27)

and out.

The most common type of fibre can closure—the type used on salt containers—is the paperboard cap or slip cover. These caps, or ends, are drawn from special grades of board containing a high percentage of chemical fibres and are produced on double-action punch presses.

At the Joliet plant the huge rolls of paperboard for salt containers are processed and then cut to size for the winding machines which form the beginnings of the salt can bodies on the spiral mandrel. An automatic saw cuts off long lengths of the spirally wound fibre which then travel to a series of knives. The knives cut seven container bodies from each tube-like section and the newly formed bodies automatically move along to the next operation.

Meanwhile, other machines are stamping out the bottom and tops from the special type of paperboard. If the stamped end is to be a salt carton bottom, nothing else is required except to crimp and attach it to the body in a later operation. If it is to be a top, however, several other machine operations are necessary before it is completed.

The tops first are perforated to receive the aluminum spout. The spouts, meanwhile, are cut to proper size and shaped.

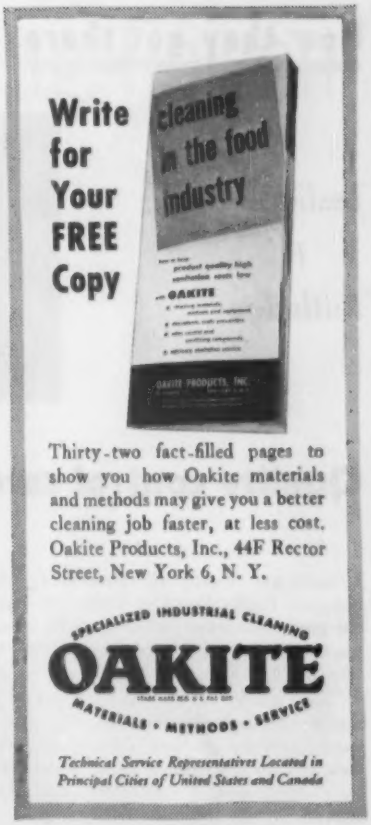
Tops and spouts are joined at another machine which inserts the aluminum piece in the notch and secures it with a wire stitch. The completed unit is moved onto an endless belt. The top and bottom ends finally meet at a Canco capper.

Tops and bottoms are fed into the capper and as bodies roll through, a bottom and top are attached and crimped into place. Each new container then moves to a special shrinker, which draws and shrinks the bottom and top securely to the body.

The completed fibre salt cartons roll on special runways to automatic packing machines which pack and seal them in cases for shipment to customers.

At the customer's plant the cartons are filled, sealed and labeled on automatic machines.

June 10-19: Mayonnaise and Salad Dressing Week, sponsored by the Mayonnaise and Salad Dressing Manufacturers' Association, Inc.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How they got there

Leslie F. Rutledge

Quality control career man

DURING HIS NEARLY 40 YEARS as a chemist and food technologist, Leslie Franklin Rutledge actively participated in the great transition that moved the chemistry of foods from the crude alchemy of the early 1900's to the highly refined science of quality control we use today.

"Rut," as he is called, is manager of Stokely-Van Camp's quality control department. He and his 25 associates, working in the spotless, roomy, and well-equipped laboratories in the company's Indianapolis plant, are responsible for every phase of production and processing that might influence the quality of "Stokely's Finest" and "Van Camp's." Today this big company, as well as others, recognizes that the virtual success of the business itself rests on the thoroughness and efficiency of the quality-control operation.

But when Rutledge began his career in 1916, long before the term "quality control" even existed, the food chemist was almost as much of an unknown quantity as some of the ingredients that went into the can.

Rut was born October 2, 1893, at Parkton, Md., and at age 8 moved to York, Pa. He was 11 when he earned his first money by "stringing" beans in a York cannery. Ambitious, but with no money, he couldn't find a way to go to college until he finally wangled a baseball scholarship at Ursinus College, Collegeville, Pa. Playing ball for four years provided him with the necessary tuition, room, and board. He was graduated with a degree in chemistry in 1916.

Most of his fellow graduates went to work for the heavy chemical industry. But since the death rate from explosions was uncomfortably high at that time, Rut looked around for something safer. He was approached by the Van Camp Packing Co. and came to Indianapolis for an interview. Impressed, company officials told him either to put on a white coat and go to work or draw expenses and go home. He went to work. He made a hurried trip to Paulsboro, N. J., to marry his college sweetheart, Mildred Paul, and has lived in Indianapolis ever since.

At that time Van Camp was a big packer of evaporated milk, a fairly well standardized product. But because there was very little scientific basis on which to pack other foods, Rut was given the job of working up standards and methods of control for a variety of existing food products, as well as developing new products for the Van Camp line.

The following year he enlisted in the army and was assigned to the Washington, D. C. laboratories of the Medical Corps' Division of Food and Nutrition. Here he helped develop emergency rations and dehydrated vegetables. Major Samuel C. Prescott (FOOD PACKER's Man-of-the-Month, February 1954) was his commanding officer; another of his associates was L. V. Burton, now executive director of the Packaging Institute, Inc.

In 1919 he returned to Van Camp's and spent the ensuing "reconstruction" years developing new company products, all the while gaining experience and prestige in the youthful business of food science.

In 1933, when Stokely bought out Van Camp, Rut went to work as assistant chief chemist for Stokely. George C. Kolb, now head of research for the company, was chief chemist. Rut was given added responsibility. Volume was greater, particularly in seasonal vegetables. Also, Stokely acquired several more companies in the next decade. Rut, always the patient technician and diplomat, molded their quality-control activities in line with Stokely requirements.

In 1939, he started working with the Quartermaster Corps to develop combat rations for the armed forces. He and Col. R. A. Isker made up the first "C" ration formula. Stokely was the largest packer of this famous wartime product, and also was the first canning company to receive the distinguished "E" Award from the Army and Navy.

Rut was made manager of the quality control department in 1947 when Stokely separated research and quality control.

Rutledge prefaced his career with the ambition to "get to the top." This he has done, but the way was not easy. He started out when food chemistry was often unrecognized and unappreciated. The master "chef" usually determined by snap judgment whether the product was suitable for the can. Rut fought hard to secure professional status for the trained scientist, both in his company and the industry. Slowly but inevitably canners realized that control of raw product and finished product quality can come only from trained laboratory staffs. The dogged fortitude and perseverence of Rutledge and a few other pioneer chemists contributed immeasurably to this necessary and radical change in the method of processing foods.

Rutledge has earned a permanent place in food fame because of hard work, resourcefulness, loyalty, and his insatiable determination to make today's package of food better than yesterday's. Moreover, he is firmly convinced that we still have a long way to go before the industry reaches the "perfect state." Every container of food that has to come off the grocer's shelf before it's sold is a direct challenge to him.

His keen, analytical mind quickly digests results that come from our great research organizations charged with the responsibility of improving the quality of our foods. Yet for every problem that is solved, Rut can think of a dozen that are not solved. "Facts," he says, "are all-important. New developments and improvements can come only through reliable research that seeks out the basic facts on the problem involved."

Rutledge relaxes by visiting his three children and five grandchildren—all residents of Indianapolis—and by indulging in his favorite sport, fishing. Although he fishes regularly in Florida and Wisconsin, he would just as soon pull out a few from the old stone quarry north of Indianapolis.

In addition to work and play, he still finds time to participate in industry affairs. He and his associate, D. T. Sherow, organized the Indiana section of the Institute of Food Technologists. Rut is a Mason, Shriner, and belongs to the American Legion. He's on several committees of the National Canners Association.

He thinks food is the most fascinating business there is. "I only wish I had another 40 years to work. I'd spend it right here," he concludes.

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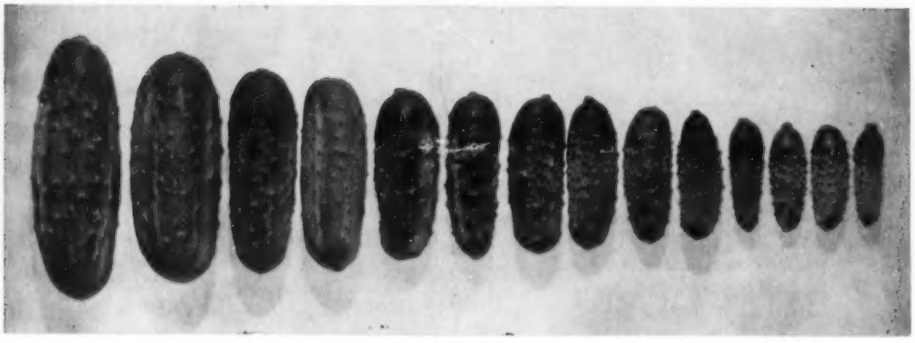

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Food Packer

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Mid-Month

NEWS LETTER

May 15, 1954

Prospective 1954 planted acreage of 8 vegetables for commercial processing is 6% less than last year, according to Crop Reporting Board, USDA. These 8 vegetables, for which 1954 intended acreage reports are now available, are snap beans, beets, cabbage for kraut (contract acreage only), sweet corn, cucumbers for pickles, green peas, winter and early spring spinach, and tomatoes. These crops usually account for about seven-eighths of the planted acreage of the 11 vegetables for processing covered in regular program of reports.

Summary follows (first figure indicates 1953 revised planted acreage; second figure indicates 1954 prospective acreage): Snap beans, 146,390, 151,860; beets for canning, 17,210, 16,440; cabbage for kraut, 12,000, 10,410; sweet corn, 528,710, 492,050; cucumbers for pickles, 162,390, 147,740; peas, 464,250, 456,350; spinach (winter and early spring), 11,900, 12,100; and tomatoes, 301,200, 255,200.

New members of the National Food Brokers Association are as follows: **Ellis & Co.,** 3724 Grosvenor Road, Cleveland Heights 18, Ohio; **R. R. Stranahan Brokerage Co.,** PO Box 156, Sta. B, Charlestown, W. Va.; **McMahon & MacDonald,** 8014 Grand River Ave., Detroit 6; **Jamerson Brokerage Co.,** 202 Masonic Temple Bldg., Charleston, W. Va.; **Robert G. Martin,** 1448 Wabash Ave., Detroit 16; **Geo. Pannkuk Co.,** 6106 Excelsior Blvd., Minneapolis 16; **Estes & Jones,** PO Box 1143, Lexington, Ky.; **G. Krautblatt Co.,** 2201 Grand Ave., Kansas City; and (reinstatement) **Roberts Brokerage Co.,** 209 N. Hawkins St., Dallas, Texas.

Secretary of Agriculture Ezra Taft Benson is expected to discuss the current legislative proposal for authority to issue marketing orders on fruits and vegetables for canning and freezing when he speaks before the Board of Directors of the **National Canners Association,** in Washington, May 21. **Representative Clifford R. Hope** (Kansas) chairman of the **House Committee on Agriculture,** will speak before the same group, on the status of current farm legislation. The May meeting will bring together the NCA board of directors and the administrative council. Full report of the meeting will be published in the July issue of **FOOD PACKER,** in the mails July 1. Watch for it.

CM&SA President E. N. Funkhouser predicated in late April that the 1955 exhibit, to be held in Chicago, will be bigger than the 1953 Chicago exhibit, itself a record-breaking success. **Funkhoiuser, of Dewey & Almy Chemical Co.,** reported at the annual spring meeting of the **CM&SA** board of directors, held in New York City, that a concentrated advance publicity program will not only utilize advertising and editorial pages of leading trade journals but will also reach out to all canning personnel through local and state canning associations. Those attending, in addition to **Funkhouser,** included **C. K. Wilson,** vice-president, Food Machinery & Chemical Corp.; **W. D. Lewis,** vice-president and secretary-treasurer of **CM&SA;** and the following directors: **A. Bryan Clark,** Associated Seed Growers; **John Dingee,** Crown Cork & Seal Co., Inc. (Crown Can Div.); **Robert A. Sindall Jr.,** A. K. Robins Co.; **A. E. Staley Jr.,** American Can Co.; **Harry A. Miller,** Burt Machine Co.; and **John Swift,** White Cap Co. **Hal W. Johnston,** retired executive of Stecher-Traung Lithograph Corp., and **CM&SA** ex-officio officer, also attended.

Late industry financial news: Consolidated Foods Corporation (formerly Consolidated Grocers Corp.) reports sales for the first 36 weeks of its current fiscal year of $172,755,581 compared with sales for the corresponding period a year ago of $145,522,662, according to **Nathan Cummings,** chairman of the board. This period, which ended Mar. 6, 1954, resulted in a profit after income taxes of $2,808,272 compared with earnings of $1,927,021 for same period a year ago . . . **Robert Gair Co.** announced for the first quarter of 1954 consolidated net income for the company & subsidiaries of $1,360,974 compared with $1,627,431 for the first quarter of 1953. Earnings per share were 60¢ on the 2,251,888 shares of common stock outstanding Mar. 31, 1954, compared with 75¢ per share for corresponding quarter of 1953 when only 2,179,888 shares of common stock were outstanding. Net sales for quarter ended March 31 were $28,454,345 as compared with $29,734,645 for same period of 1953 . . . **Gerber Products Co.,** Fremont, Mich., announced that sales for fiscal year ended March 31 were more than $78 million, an increase of $13 million, or 20%, more than the previous fiscal year. Although the audit has not been completed, **Daniel F. Gerber,** company president and board chairman, indicated that earnings should be about 10% more than the earnings of $3,122,572 a year ago . . .

Diamond Alkali Co. reports net sales for quarter ended March 31 of $22,184,991 compared to $21,572,915 for same quarter in 1953. First quarter 1954 net income after federal income taxes was $1,329,698 which, after preferred stock dividend, is equivalent to 53¢ per share on 2,264,073 shares of common stock issued and outstanding. This compares with net earnings of $1,399,610, or 56¢ per share of common stock on the same number of shares for first quarter 1953, restated to reflect the average federal income taxes and certain other items for 1953. **Diamond Alkali's** board of directors elected **Raymond F. Evans** as chairman of the board and **John A. Sargent** as president of the company. All 10 present directors were re-elected at company's annual meeting of stockholders . . . **Hunt Foods, Inc.,** reports net sales for first four months of 1954 fiscal year of $17,500,000, or 20% higher than similar period a year ago. **Hunt president F. R. Weisman** called attention to his letter to stockholders in Hunt's 1953 annual report, where, in commenting on 1953 final quarter sales, he had said, "The trade did not anticipate its requirements by forward buying as had been customary for many years and this depleted inventories in wholesale channels. Because of this, we expect an increased movement of all merchandise in the first half of 1954." . . . **Hazel-Atlas Glass Co.** reports net sales for quarter ending April 3 of $20,099,930, with net income for the quarter of $662,522 . . . **Robert S. Solinsky,** president of **National Can Corp.,** announces that **National's** sales for the first quarter of 1954 were "considerably better" than sales in the corresponding period in 1953. He said the company's expansion and modernization program, inaugurated last year, has produced gratifying results. He added that the program will be continued throughout 1954 . . . Board of directors of **Thatcher Glass Mfg. Co., Inc.,** has declared the regular dividend of 25¢ per share on the corporation's common stock, payable June 15, 1954, to stockholders of record May 28 . . .

Continental Can Co.'s sales and net earnings, both before and after income taxes, were at record levels for the first quarter (ended Mar. 31), according to board chairman **Lucius D. Clay.** Net sales of $127,980,757 for the quarter were 18¾% higher than sales for first quarter 1953, when they totaled $107,977,816. Physical volume was up about 10%, exclusive of volume added from 1953 acquisitions. Earnings of $5,975,-

317 before taxes compared with $5,070,670 earned in the March quarter last year—an increase of about 18%. After income taxes of $2,975,000, net earnings of $3,000,317, compared with $2,477,446 for similar period of 1953. All officers of the company were re-elected at the organization meeting, following the annual shareholders meeting . . . **J. P. Levis**, chairman of the board for **Owens-Illinois Glass Co.**, has announced that the company is borrowing $40 million on 3¼% promissory notes due in 1984. 'Of the proceeds $30 million will be used to retire bank loans while the remaining $10 million will be added to company's working capital. **Levis** said there is a continuing strong demand for glass products since the record levels of 1953 and that the future indicates a continuing upward trend in demand . . .

USDA has announced publication of the first issue of U. S. Standards for Grades of Tomato Sauce, and the second issue of U. S. Standards for Grades of Cucumber Pickles. Copies are available from **Standardization & Inspection Branch, Fruit & Vegetable Div., Agricultural Marketing Service, USDA,** Washington 25, D. C.

Demand for processed apples is currently strong, says L. W. Brown, president of **Processed Apples Institute, Inc.**, and a member of **National Fruit Product Co.** "With the increased volume of quality food products on grocery shelves today, it is heartening to see new and greater plans to keep the stocks moving," he said. "When **PAI** started its consumer promotion of apple products 3 years ago, the apple industry was faced with a large surplus and with another good crop on the way. The members are now cleaning out most of their inventories before the new pack is ready for delivery. In fact, the demand for processed apples is so good, that some items will be in short supply until the new pack is on the shelf. Full credit should be given to the **PAI** promotional program for this unprecedented movement of apple products," **Brown** declared. He went on to say that "With the **National Canners Association** inaugurating a consumer and trade relations program, the impact of product association activities, like the **PAI** program, will be strengthened. Institute members know this kind of a program can work—can help to move merchandise." **J. P. Arthur, PAI** secretary, and manager of **Shenandoah Valley Apple Cider & Vinegar Corp.**, is program chairman for **PAI'S** third annual meeting, scheduled for June 9-11 at **Skytop Lodge, Skytop, Pa.**

Industry briefs: A new canning and packing plant will begin operation shortly in Lockesburg, Ark. To be operated by **S. E. Skinner** of Sevier Co., the plant will produce strawberry and peach preserves and will provide employment for 45 persons . . . Swing to carbonated beverages in cans will get boost when **Mason's Beverage Co.**, Chicago, will open new plants in Chicago and Detroit that will furnish canned beverages in several flavors to distributors in all or parts of Illinois, Indiana, Wisconsin, Iowa, Ohio, and Michigan. **National Can Corp.**, Chicago, is furnishing cans to the company, predominantly flat-top 12-oz., size . . . **Ben A. Fowler**, formerly canned fruit and vegetable buyer for **Chicago Quartermaster** and later with **Bell Fibre Products Co.**, has been appointed supt. and asst. mgr. of **New Era Canning Co.**, New Era, Mich. . . . **Clark Equipment Co.** announces that **Thompson and Johnson Equipment Co.**, 1898 Erie Blvd., East, Syracuse, N. Y., will sell and service **Clark** industrial trucks and other materials-handling equipment; and that **Erie Industrial Trucks, Inc.**, 1012 Liberty St., Erie, Pa., has been granted a franchise for the sale and service of **Clark** industrial fork-lift trucks . . . **USDA** has given notice of proposed rule making for U. S. Standards for Grades of Dehydrated (low-moisture) apples . . . **Wisconsin Canners Association** has compiled a directory of names, addresses, and products packed for all processors in Wisconsin, both members and non-members . . . **National Pickle Packers Association** says that pickles outsold every canned vegetable and fruit except one—**corn**—in 1953, on basis of packers' shipments in seasonal years . . . **Oakite Products, Inc.**, announces assignment of the following new technical service reps: **R. J. Price**, Portland, Ore.; **M. N. Gray**, Lincoln, Nebr.; **J. N. Lee**, Miami, Fla.; **Gale R. Miller**, Cincinnati; **K. L. Oliver**, Ft. Wayne, Ind.; **T. D. Ellsworth**, Grand Rapids, Mich.; **D. O. Mundale**, Asheville, N. C.; **Haskell Wilder**, LaCrosse, Wis.; **L. W. Kagley**, Knoxville, Tenn.; **W. D. Hudson**, Topeka, Kansas; and **H. W. Dieter**, Youngstown, Ohio . . .

W. W. Evans, president of Caar Canning Co., Redkey, Ind., announces he has purchased all the company's common stock . . . **Nat'l Cranberry Assn.**, Hanson, Mass., announces that **Ocean Spray Brand** consumer sales topped all records for month of March when 181,849 cases of canned cranberries were sold . . . **Pfaudler Co.** says that a new firm, **Shinko-Pfaudler Co., Ltd.**, Kobe Japan has been formed to furnish equipment to a growing list of manufacturing companies in Japan, including American companies already operating there . . . **Food Machinery & Chemical Corp.** announces the following changes: **Dale Davis** has been assigned to Wis. territory, with hq. at 424 Grant St., Fond du Lac; **Ward Armstrong** is sales rep. for Ark., Louisiana, Okla., and north portion of Texas, with hq. at 1018 Denton, St., Denton, Tex.; **Harold Murphey**, with hq. at 4311 W. Richard St., Decatur, Ga., will serve Alabama, Georgia, Miss., N. C., S. C., and Tenn.; and **C. J. Simpson** has been assigned to New York State and that part of Pa. which borders Lake Erie; his hq. will be at 14 Franklin St., Rochester 4, N. Y. . . . **American Home Foods, Inc.**, NYC, has brought **Dennison's Foods**, Oakland, Calif., as part of **American's** expansion program on the West Coast. The company intends to retain most of **Dennison's** management and regular plant employees . . .

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Kemp Bros. Packing Co., leading Indiana tomato canner, is direct-seeding more than half of its 1954 tomato acreage. What are the pros and cons of this relatively new method of planting tomatoes? Several years' results on the Kemp operation are summarized in the Canners' Acreage section of the June FOOD PACKER. Be sure and read this valuable article.

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Consolidated Food Processors' Ellsworth, Michigan, cherry-canning operation is one of the best in the industry for three reasons. (1) Consolidated's way of doing things; (2) an unusual water supply; and (3) a soft-spoken, Norwegian plant manager named Elmer Rood. FOOD PACKER's June Cover Story is about the Ellsworth cannery.

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